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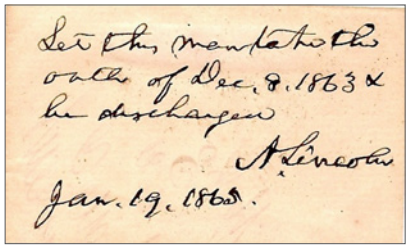

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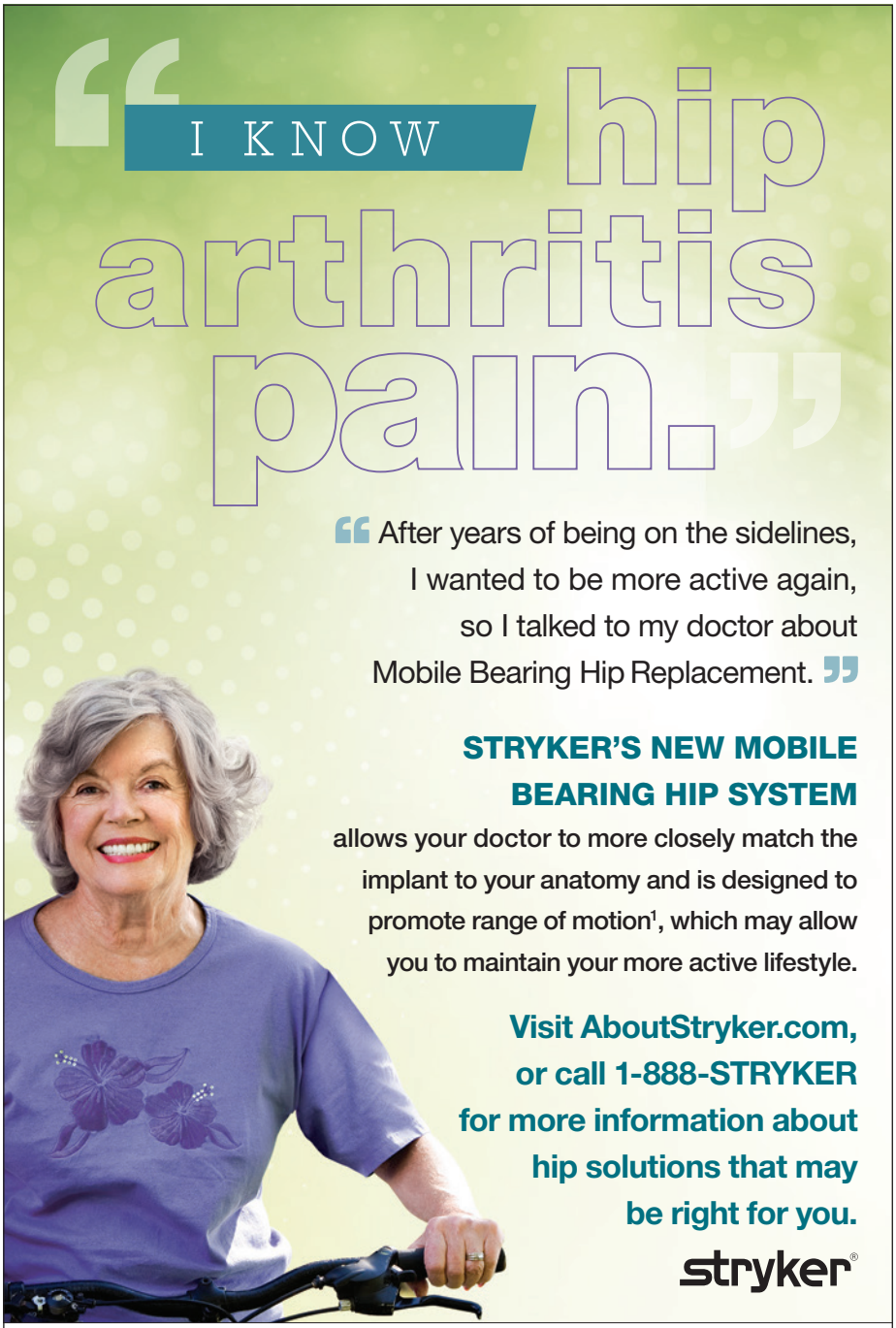
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Sonoma Medicine (ISSN 1534-5386) is the official quarterly magazine of the Sonoma County Medical Association, 2901 Cleveland Ave., Suite 202, Santa Rosa, CA 95403. Periodicals postage paid at Santa Rosa, CA, and additional mailing offices.

POSTMASTER: Send address changes to *Sonoma Medicine,* 2901 Cleveland Ave., Suite 202, Santa Rosa, CA 95403.

Opinions expressed by authors are their own, and not necessarily those of *Sonoma Medicine* or the medical association. The magazine reserves the right to edit or withhold advertisements. Publication of an ad does not represent endorsement by the medical association. Email: scma@scma.org.

The subscription rate is $19.80 per year (four quarterly issues). For advertising rates and information, contact Susan Gumucio at 707-525-0102 or susan@scma.org.

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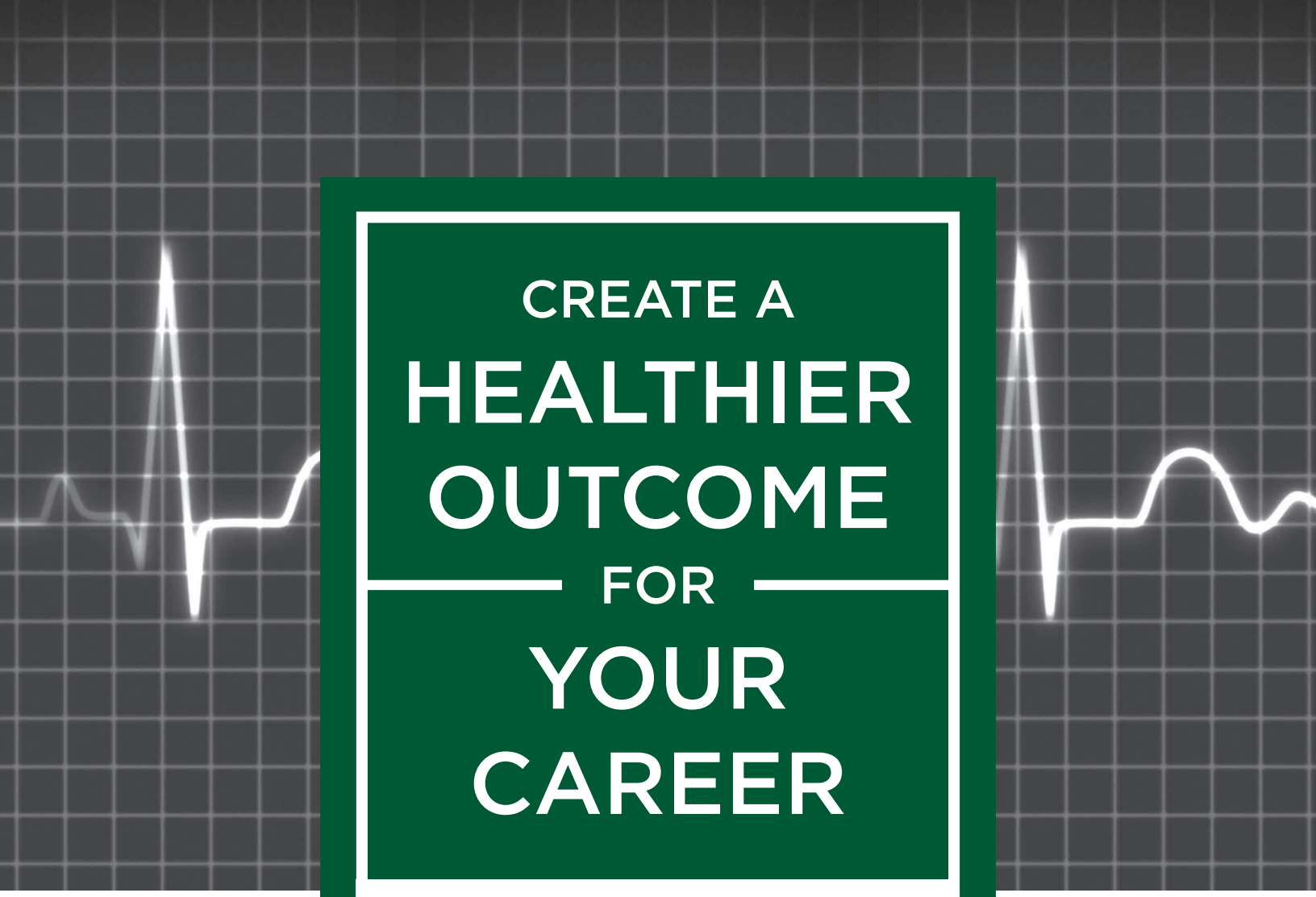

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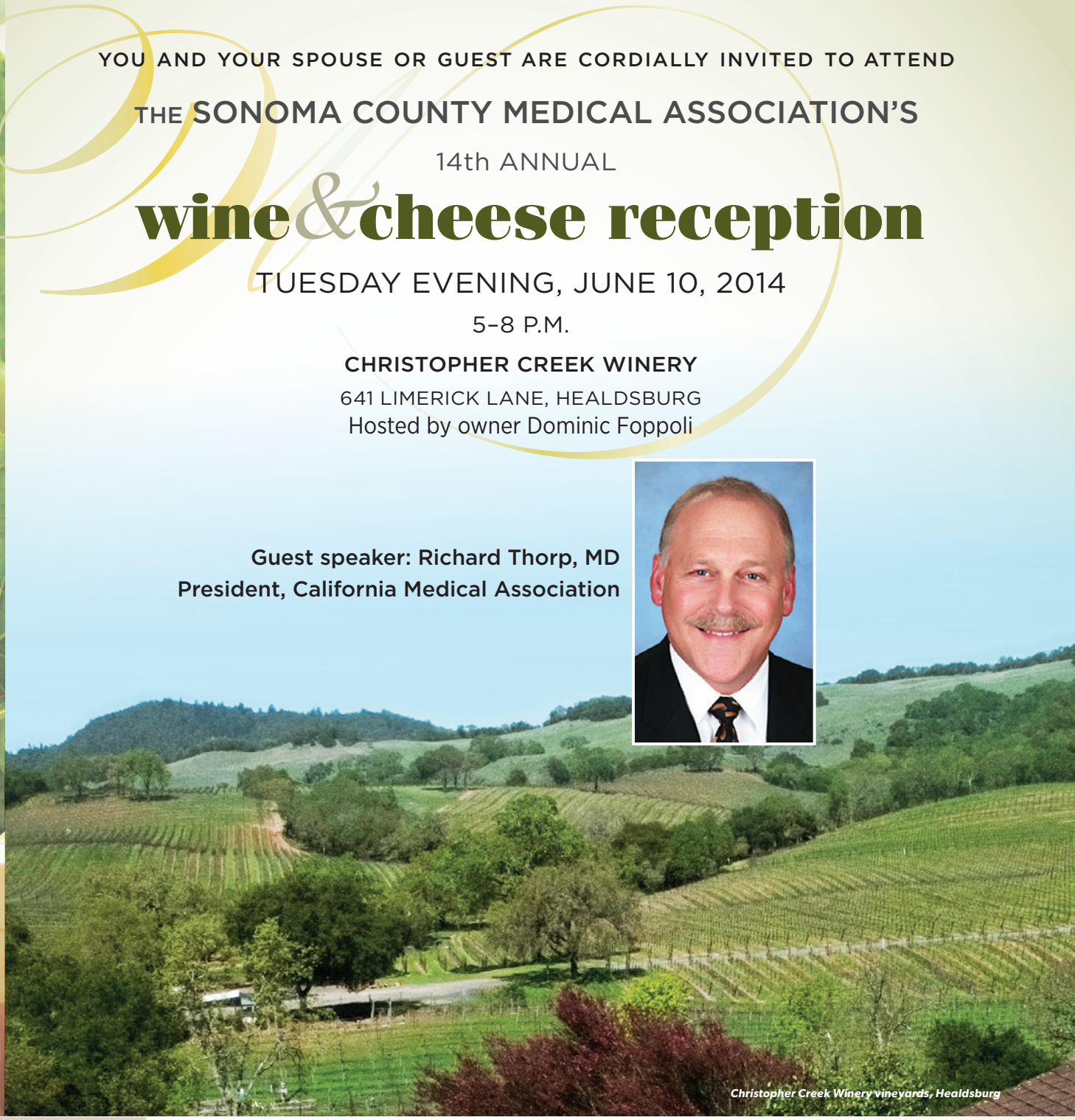

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The Stubbornness of Wrong

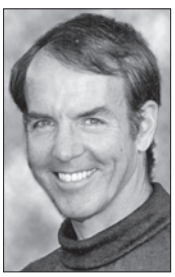
Brien A. Seeley, MD

Be careful about reading health books. You may die of a misprint.
—Mark Twain

This issue of *Sonoma Medicine* takes on several medical controversies, including obesity treatments, medical marijuana, vitamins, supplements and diets. Our truth-seeking authors on these topics are all experienced clinicians with special knowledge. What makes their articles particularly valuable is that they have each braved what I call the "stubbornness of wrong."

Wrong beliefs die hard. The snakebit preacher from Kentucky who died recently relied upon belief too much and science too little. Drought-stricken farmers still search for underground water with divining rods without any science to support their efforts. We expect that some beliefs will never be overturned, as humorously shown in Woody Allen's time-travel film, "Sleeper," when the futuristic medical staff laughs at how Allen's character from the past still believes that organic fruits are good for you. Even the most fundamental issues remain unsettled in people's minds: earlier this year, Bill Nye "the science guy" debated creationism with the leader of Kentucky's Creation Museum.

We should wise up with the passage of time; but we should do so more quickly. Consider the film "Reefer Madness," released in 1937, that begins with this warning, complete with bold type: "The motion picture that you are about to witness may startle you. It would not have been possible, otherwise, to sufficiently emphasize the frightful toll of the new drug menace which is destroying the youth of America in alarmingly-increasing numbers. **Marijuana** is that drug—a violent narcotic—an unspeakable scourge—**The Real Public Enemy Number One!"** More than 75 years passed before Colorado and Washington state legalized marijuana.



Dr. Seeley, a Santa Rosa ophthalmologist, serves on the SCMA Editorial Board.

One's view of the truth gets distorted by the claims of shrewd promoters. When patients are fearful and ill, they will place their trust in a pill. What their doctor prescribes, if it doesn't cause hives, they will take no matter the bill. They trust their physician to not be wrong and rely upon us to be ethical and knowledgeable about drugs and supplements.

Though physicians are one of the most moral of "tribes," we are all gullible to some extent. And we know that tragically wrong impressions can be readily created and etched in memory by many means. Consider how vulnerable we are to several pathways to being wrong:

- Our stubbornness to change our beliefs and practice patterns.
- Less-than-honest ads for drugs, therapies and surgeries.
- Anecdotal case occurrences that seem significant but are not.
- Fads among colleagues.
- Insidious and delayed bad results that escape accountability and provide no learning or correction.
- Epigenetic influences that bring confounding outcomes.
- Drug interactions.
- Unchecked, multi-doctor polypharmacy.
- Poor patient compliance.
- Internet and television infomercials and pseudoscience.

Clinical impressions can be misleading. The great natural healing powers of the human body are constantly trying to confound us regarding what worked and what didn't. The feedback loop of biological and cellular processes is slow and causes us to miss the real cause and effect. It is wrong to credit our therapies for recoveries that would happen anyway. Yet there is a natural human stubbornness against righting such a wrong. The comfort of superstitions can insidiously shackle us to wrong, damaging or self-destructive beliefs. As physicians, we are given license to inflict our beliefs on others, so we must keep asking ourselves whether our beliefs are correct.

We must be open to multiple explanations for observed phenomena. For example, the observation that nearly all glaucoma patients show better lowering of their eye pressure after they start storing their eye drop medication in the fridge could be explained merely by the coldness of the drop enhancing their accuracy in placing it on the conjunctiva rather than on their cheek. It could instead be that the drug potency is better maintained at temperatures that prevent denaturation. It could even be that the coldness of the drops shrinks the cells of the cornea and causes their tight junctions to come apart, thereby increasing the amount of drug absorbed into the anterior chamber.

It would be reassuring if everything we did in medicine were as incontrovertible as physics, like the works of Copernicus, Newton and Einstein. But our noble quest for truth in the face of the stubbornness of wrong will be perpetual. ◇

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Emerging Concepts of Obesity

Robert Woodbury, MD, FACS

The only thing we know for certain about the disease of obesity is that we in the medical profession have spent the past 30+ years working in relative scientific darkness and generally failing our patients suffering from a life-threatening disease. This failure is shocking when we consider that obesity affects 78 million Americans, including 12.5 million children, and costs our society $147 billion dollars per year.[1]

In this issue of *Sonoma Medicine*, the focus is on medical controversies. I was honored to be asked to write an article on the disease of obesity and its treatments. It was tempting to just answer the usual questions such as what diets we recommend, how we get patients to follow them, the role of surgery, and how successful we are. However, these are all the wrong questions.

Here are the questions we should be asking:

- Why do rats subjected to bariatric surgery lose drastically more weight than a pair-mate rat fed the same calorie-restricted diet that the surgery rat ate?
- Why does a mouse fetus genetically designed to be immune from obesity become morbidly obese when transplanted into a morbidly obese mother?
- Why does a patient given certain probiotics lose more weight after bariatric surgery?
- If restricting calories is a dominant mechanism for weight loss, why did the old jaw-wiring surgeries and non-metabolic gastrectomies fail to cause sustained weight loss?
- If environment and family influences are to blame for obesity, then why do children born to mothers after bariatric surgery have less obesity, diabetes, and cardiovascular risk than their siblings born before Mom had bariatric surgery?
- If gluttony is simply due to a deficiency in willpower, why do bariatric surgery patients develop profound changes that immediately correct gluttony?

If the reader is willing to dive into the topic, read on as I try to convey some of what I have learned after 19 years as a student of the disease of obesity. I view obesity through the lens of metabolic and bariatric surgery, which is the only effective treatment for patients suffering from the extreme end of the disease spectrum. If I can convince the reader that the disease is far more complex than a calorie intake problem and exercise deficiency, then I will have succeeded in my endeavor. Here we go . . .

Dr. Woodbury is a surgeon with Northern California Medical Associates, the director of Metabolic Bariatric Surgery at Sutter Medical Center, and the medical director of Healthy Steps Therapeutic Lifestyle Center.

Energy Balance

Obesity is fundamentally a disease of energy imbalance, with one subsequent manifestation being excess energy storage. To achieve weight loss, we must ultimately create negative energy balance. Historically we have addressed the restrictive side of this equation only with various low-calorie diet schemes, and the expenditure side only in terms of exercise and physical activity. While not technically incorrect, this is an incomplete paradigm, and it has led to decades of reliable treatment failure.

To begin our understanding of obesity, I will describe an elegant experiment recently presented at the Metabolic Applied Research Strategy meetings I attend.[2] The experiment starts with a genetic strain of normal body weight rats who are allowed ad lib eating from "rat chow." Over the adult life, the population slowly increases body fat at a "normal" rate of a few percentage points, with total final weights being remarkably similar among members of the population. Next we take a sample of the same rat strain and subject them to calorie restriction as part of an "underfed" cohort. Predictably they all lose weight, at remarkably the same rate, with high losses in lean body mass. Eventually the weight loss stops, the group plateaus, and then, despite continuing the calorie restriction, they actually begin to gain weight back at the same "normal" rate as the control population, but with lower absolute weight levels. Once the calorie restriction is lifted and the underfed rats are fed ad lib, the entire population rapidly gains weight and then plateaus at the same weight as the control population.

Next we consider a cohort of rats that are force fed, called the "overfed"

group. This group gains weight rapidly, then plateaus despite the continued overfeeding. They then resume the same slow rate of continued weight gain that the control rats exhibited. Once the overfed rats are fed ad lib, they choose to eat only modest amounts of food, and rapidly drop fat mass. They plateau at the same weight as the control group and then slowly gain weight at the same "normal" slow rate as the control group.

When the hormonal profiles and energy expenditure of the underfed and overfed groups are compared, we find a very different profile. Historically we in the medical profession have been trying to design a better plan for the "underfed" state. Instead we need to find a way to create the physiologic profile of the "overfed" state, which results in natural shedding of excess energy storage.

A math exercise will reveal the bottom line of the energy balance problem. An energy mismatch of 11 Kcal per day is a 0.4% error, and will increase body fat by approximately 45 pounds over an adult life. A mismatch of 30 Kcal per day is a 1.5% error and results in a 200-pound increase over an adult life. Correction of these small but powerful errors is the goal of treatment.

Genetics

The story of genetics and obesity begins in 1999 with the discovery of the FTO gene. Its significance was revealed in 2007 with publication of a study that showed a relationship between the FTO genetic locus and adiposity of the subjects.[3] Several independent studies have since corroborated this genetic locus and the predisposition to obesity.[4–8]

The next breakthrough came in 2013, when researchers analyzed body composition, FTO genotype, serum ghrelin response and brain responses to food cues in 359 normal-weight young volunteers of mixed European descent.[9] Their study shows a link between the FTO gene, ghrelin and alterations in psychologic functions that are linked to obesity.

In considering genetics, we must also consider the role of epigenetics, defined as the study of heritable changes in gene activity that are not caused by changes in DNA sequence. An example of the influence of epigenetics on obesity can be found in a study of cloning and embryo transplants in B6C3 mice.[10] Compared to natural B6C3F1 offspring, the B6C3F1 mice cloned from in-vitro culture were born at a normal size but then developed obesity that was NOT due to excessive calorie intake and hyperphagia. A subsequent experiment showed that the F2 offspring created from natural mating of B6C3F1 mice produced normal-weight offspring. The reader should realize that all of the mice in this study had exactly the same genetic code. The obesity or lack of obesity was related to changes in the epigenetic state, presumably due to the intrauterine environment, which caused changes in the phenotypic expression.

Genetics vs. Environment

Separating genetics and environment is difficult, but we do have some clues from a longitudinal human study on the effects of in-utero environment, beginning with 113 obese mothers.[11,12] A health registry was kept of the 45 children born before their mothers had bariatric surgery, and of the 172 siblings born after surgery. There were no underweight births.

Researchers maintained long-term follow-up for 88% of the subjects. The prevalence of obesity was three times lower in children born after their mothers had bariatric surgery, and the prevalence of severe obesity was 45% lower. Age for age, these children were leaner, and pound for pound there was less diabetes, hypertension and hyperlipidemia. Plasma studies showed improved insulin sensitivity, improved lipid profiles, lower CRP, and improved profiles of leptin and ghrelin.

One may postulate that the mothers made significant lifestyle changes associated with bariatric surgery, and perhaps that was why their post-bariatric children were healthier. Unfortunately, any such environmental benefit was not transmitted to the children born before surgery. While there is no doubt about the role of environmental factors in obesity, we cannot ignore the strong role of genetics and epigenetics.

The Gut Microbiome

In a 2009 study, researchers randomized bariatric surgery patients to probiotics vs. placebo with the idea of looking for effects on vitamin absorption and GI quality of life.[13] The probiotic group achieved a 9% increase in weight loss vs. placebo.

Studies of germ-free mouse strains and fecal transplants of gut flora have further elucidated the association of the gut microbiome and weight loss. Fecal transplants from Roux-en-Y mice into obese germ-free mice, for example, cause significant fat loss.[14] There are strains of germ-free mice that even when fed obesogenic diets still remain lean and free of any insulin resistance. When these mice are colonized with the gut flora from normal weight, "normal flora" mice, they gain a small amount of "normal" weight. When they are colonized with the gut flora from obese mice, they become obese.[15]

The net effect of the gut microbiome on energy balance is well illustrated in a study of the residual energy in the feces of lean and obese individuals.[16] Ingesting different calorie loads produced a rapid change in the gut flora. In lean individuals, as the caloric load was increased, the stool energy loss was increased. This effect was not seen in obese subjects. Changes were seen in ratios of firmicutes to bacteroides, and "energy harvest" was increased by 150 Kcal. Here the reader should recall that a 30 Kcal/day mismatch in energy expenditure results in morbid obesity.

In summary, the effects of the gut microflora include changing energy harvest from food, changing fat storage physiology, changing insulin effects directly and via incretin effects, and altering systemic inflammation. Brain psychology is also affected. More information is surely coming in the literature. It is useful to recall that once upon a time peptic ulcer disease was an "acid problem" to be treated with

surgery, and later with anti-acid medications. Today we understand it as an infection with H. pylori that is treated with antibiotics.

Gastrointestinal Hormones and Leptin

The gastrointestinal tract taken as a whole is a powerful endocrine organ that influences appetite and energy balance. For patients suffering from morbid obesity, some GI hormones are severely deranged compared to normal-weight patients. Below I summarize prominent points from two reviews.[17,18]

Leptin is an adipokine secreted by fat cells and is involved in signaling food intake, energy expenditure, fat storage and insulin response. As body-fat stores increase, so do leptin levels. In a well-functioning metabolism, this increase sends a satiety signal to the hypothalamus and increases energy expenditure via the sympathetic system and thermogenic centers in the brain. During underfeeding, leptin levels fall, and the body "protects" itself from weight loss. A problem occurs with chronic overfeeding because the system can become "leptin resistant" in the same way it becomes insulin resistant. The body will now mistakenly "protect" itself during periods of underfeeding, despite the total energy surplus.

Ghrelin, also known as growth hormone releasing factor, is a powerful orexigenic (hunger) hormone. It is primarily secreted from the stomach, with minor amounts coming from the pituitary gland, intestine and pancreas. Ghrelin secretion varies throughout the day, with levels falling after meals, then rising in anticipation of the next meal. In addition to stimulating appetite, ghrelin provides some inhibition to the visceral nervous system, which blunts sympathetic increases in energy expenditure. Additionally, it affects fat by stimulating adipogenesis and inhibiting apoptosis of adipocytes. For reasons unknown, in patients suffering from chronic obesity, food intake does not suppress the ghrelin response as strongly as in normal-weight patients.

Peptide YY (PYY) is derived from cells in the distal intestine and is released after feeding, in proportion to calories ingested. PYY then activates anorectic receptors in the brain to increase satiety. It also slows gastric emptying, as well as other actions. Obese patients have lower baseline levels of PYY and also show a blunted response to feeding. During calorie restriction, PYY levels fall even further, again "protecting" the body from fat loss.

Glucagon-like polypeptide 1 (GLP1) is secreted from the intestine and is part of the "ileal brake" system, slowing GI transit and function. It is also a powerful incretin that improves insulin function; pharmaceutical analogues are used to treat diabetes mellitus. Studies of GLP-1 receptor knock-out in mammals show glucose intolerance not related to eating behavior.[19] In the energy balance equation, GLP-1 interacts with the brain to increase satiety and decrease appetite; it may also cause taste aversion. After Roux-en-Y, GLP-1 levels rise significantly. This may be a dominant mechanism in how the procedure causes remission of diabetes even in non-morbidly obese patients.[20]

It cannot be overemphasized that once the patient is in an obese homeostasis, any efforts at simple calorie restriction will cause the gut-brain axis to "protect" itself from fat loss.[21] Any successful treatment of obesity must address this fact. Metabolic and bariatric surgery directly "improve" many of these hormones. Certain nutritional manipulations are also effective, although not nearly as powerful as metabolic surgery.

Stress, Inflammation and Fat Mass

First we must make a distinction between subcutaneous white adipose tissue (WAT) and the visceral WAT that is drained via the portal system. The sub-Q WAT can generally be thought of as a "safe" place to store energy. It easily absorbs energy, and more importantly, easily releases it. Like all fat, the sub-Q WAT expands via cellular hypertrophy but is also capable of expanding its energy storage capacity by cell division. This hyperplasia is protective when called upon to store large amounts of energy. The sub-Q WAT fat mass also has a low level of endocrine activity. Patients who fit this profile carry most of their excess weight in a gynecoid pattern and are surprisingly free from diabetes, hypertension and other metabolic disease.

In contrast, the visceral WAT is hormonally active. It is not capable of hyperplasia, and it is inefficient at releasing its stored energy. Under extremes of energy storage demands, these adipocytes can actually outgrow their ability to extract sufficient oxygen. Cellular hypoxia and death occur, with release of multiple pro-inflammatory cytokines.[22] Patients who fit this profile have a central, android obesity pattern and high rates of metabolic comorbidities, even with modest excessive weight.

Interleukin 1 is a prototypical inflammatory cytokine. Research has shown a link between IL-1 Beta, stress and visceral obesity.[23] In the setting of acute stress, IL-1B provides support for the fight-or-flight response by facilitating mobilization of energy stores, increasing leptin and augmenting glucocorticoids. With chronic elevation, however, IL-1B becomes maladaptive, causing impairment of insulin function, blunting of the satiety effect of leptin, and inhibition of lipoprotein lipase, which then impairs mobilization of fat stores. IL-1B is also five times more active in the subcutaneous WAT and "poisons" its ability to store energy.

In summary, chronic stress causes elevated glucocorticoids, which raises blood sugar and insulin levels. In the absence of immediate physical activity, the excess energy then requires storage. With a poorly functioning sub-Q WAT, much of the energy is sent to the visceral WAT. Adipocyte hypoxia and other stress cytokines further add to the global state of hyperinflammation. Additionally, normal brain functions of satiety are impaired. When I discuss this fact with patients during their lifestyle program, I note that this effect is so powerful that there is no negotiating

our way out of it. No pill that can blunt it, and no surgery can cure it.

One of my diabetic non-surgical patients is a great illustration of this phenomenon. Even though food logs remain constant, and total weight remains constant with BMIs of 28–30, we see notable fluctuations in body composition analysis. The patient's blood sugars become difficult to control, in direct response to predictable cycles in work stress.

The Brain

There is no psychology without biology, and no biology that is unaffected by psychology. The brain receives inputs from the GI tract concerning nutrient status, as well as inputs from the gut microflora. Adipokines and myokines provide direct inputs into the status of energy storage and demands. Leptin, insulin and gut hormones influence the brain's long-term regulation of feeding and energy expenditure.[24] Hunger, satiety and anorexia are all balanced.

One of the important centers in the brain is the pro-opiomelanocortin (POMC) system, especially MC4 receptors. The role of POMC is illustrated by humans with mutations in the system who become morbidly obese starting in childhood. Animal models of POMC also show immediate development of morbid obesity. Additionally, animal models of Roux-en-Y show that if MC4 receptors in the brain are knocked out, then the animal will be "immune" to the weight-loss effects of the surgery.[25]

I believe the medical profession, and society in general, underestimates the power of the brain. People suffering from obesity are believed to have a deficiency in willpower rather than a profound derangement in hunger and satiety signals. Certainly gluttony and other eating disorders do play a role, but they are not the complete story, and perhaps not even the dominant part. Most of my metabolic bariatric surgery patients are miraculously "cured" of their willpower deficiency after surgery. Older bariatric surgical stomach stapling and jaw wiring procedures only provided restriction to food intake, and failed precisely because they had no metabolic effects. Those early surgeries unfortunately did not "cure" the patient of their "willpower deficiency."

Obesity Treatment

A full description of obesity treatment is not possible in this brief overview, but suffice it to say that such treatment must "convince" the body to stop "protecting" its fat stores and promote a drop in its set point. We must abandon the idea of drastic calorie restrictions that will only cause metabolic responses that fight fat loss. We need to create a metabolic profile similar to the previously described overfed rat that naturally sheds its excess fat.

When we understand the extensive compensatory mechanisms in energy balance, we realize that treatment must be multifactorial and must occur all at once in a coordinated effort. The environmental influences need to be blunted. Food prescriptions must be viewed as creating a series of cell-signaling interactions with a defined metabolic outcome. We can use glycemic load, for example, to change resting energy expenditure and alter GI hormonal responses.[26] Stress must be managed. The psychology of depression and gluttony must be improved. And of course, calorie intake must be dropped and exercise and physical activity increased.

Metabolic and bariatric surgery is one of the tools in the treatment armamentarium. In addition to restricting intake, surgery causes profound metabolic effects, including increases in resting energy expenditure,[27] increases in fecal energy loss,[28] improvement in GI hormonal profile, alterations in the gut microbiome, and altered brain signaling. These effects allow a patient to consume 400–500 Kcal per day and lose 2–3+ pounds of fat per week. In some patients, diabetes may resolve immediately. Other comorbidities also quickly improve.

When the global treatment plan comes together for patients, their energy is up, their mood and sleep are improved, and they report they "feel better." Meanwhile, the results of a bioelectric impedance analysis show a drop in fat mass and improvement in inflammation.

Patients sometimes even complain that our medical team is making them "eat too much," even as we see 1+ pound per week in fat losses without surgery or hunger. These results show us that the lifestyle phase of treatment is working. For morbidly obese patients, we then add metabolic bariatric surgery to everything else they are doing. For patients who suffer from chronic pain from carrying 50–150+ pounds of excess weight around, with the fear of diabetes and death from cardiovascular disease, and living with the shame of being too large in a society quick to judge, the results can be truly life-changing. ◇

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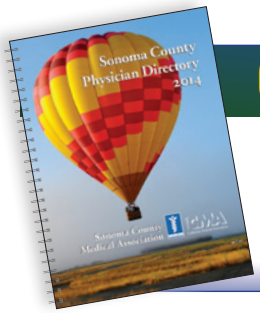
References

1. CDC, "Obesity facts," www.cdc.gov (2012).
2. Seeley R, et al, "Central nervous system mechanisms linking consumption of palatable high-fat diets to the defense of greater adiposity," *Cell Metab*, 15:137-149 (2012).
3. Williams Trust Case Control Consortium, "Genomic-wade association study of 14,000 cases of seven common diseases and 3,000 shared controls," *Nature*, 447:661-678 (2007).
4. Frayling, et al, "Common variant in the FTO gene is associated with body mass index and predisposes to childhood and adult obesity," *Science*, 316:889-894 (2007).
5. Cecil JE, "Obesity-associated FTO gene variant and increased energy intake in children," *NEJM*, 359:2558-66 (2008).
6. Diva C, "Variation in the FTO contributes to childhood obesity and severe adult obesity," *Nat Genet*, 39:724-726 (2007).
7. Andreasen CH, "Low physical activity accentuates the effect of the FTO rs9939609 polymorphism on body fat accumulation," *Diabetes*, 57:95-101 (2008).
8. Hunt SC, "Association of the FTO gene with BMI," *Obesity*, 16:902 (2008).
9. Karra, et al, "Link between FTO, ghrelin, and impaired brain food-cue responsivity," *J Clin Inv*, 123:3539-51 (2013).

10. Tamashiro, et al, "Cloned mice have an obese phenotype not transmitted to their offspring," *Nat Med,* 8:262-267 (2002).
11. Smith, et al, "Effects of maternal surgical weight loss in mothers on the intergenerational transmission of obesity," *J Clin Endo Metab,* 94:4275 (2009).
12. Kral, et al, "Large maternal weight loss from obesity surgery prevents transmission of obesity to children who were followed for 2 to 18 years," *Pediatrics,* 118:e1644 (2006).
13. Woodard, et al, "Probiotics improve outcomes after Roux-en-Y gastric bypass surgery," *J Gastro Surg,* 13:1198-1204 (2009).
14. Lio, et al, "Conserved shifts in gut microbiome due to gastric bypass reduce host weight and adiposity," *Sci Transl Med,* 5:178 (2013).
15. Molinaro, et al, "Probiotics, prebiotics, energy balance and obesity," *Gastro Clin N Am,* 41:843-854 (2012).
16. Jumperts, "Energy balance studies reveal associations between gut microbes, caloric load and nutrient absorption in humans," *Am J Clin Nutr,* 94:58-65 (2011).
17. Jayasena, et al, "Role of gut hormones in obesity," *Endo Metab Clin N Am,* 37:769-787 (2008).
18. Mikalakis, le Roux, "Gut hormones and leptin," *Obes Surg,* 22:1648-57 (2012).
19. Gallwitz, Schmidt, "GLP-1 receptor knock-out causes glucose intolerance but no alterations of eating behavior," *Gastro,* 35:655 (1997).
20. Cohen et al. "Effect of gastric bypass surgery in patients with type 2 diabetes and only mild obesity," *Diab Care,* 35:1420-28 (2012).
21. Sumithran, et al, "Long-term persistence of hormonal adaptations to weight loss," *NEJM,* 365:1597-1604 (2011).
22. O'Rourke R, "Inflammation in obesity-related disease," *Surgery,* 145:255-259 (2009).
23. Speaker, Fleshner, "Interleukin-1 Beta," *BMC Physiology,* 12:8 (2012).
24. Ahima, et al, "Brain regulation of appetite and satiety," *Endo Metab Clin N Am,* 37:811 (2008).
25. Hatoum, et al, "Melanocortin-4 receptor signaling is required for weight loss after gastric bypass surgery," *J Clin Endo Metab,* 97:E1023-31 (2012).
26. Pereira, et al, "Effects of a low glycemic load diet on resting energy expenditure and heart disease risk factors during weight loss," *JAMA,* 292:2482-90 (2004).
27. Stylopoulous, et al, "Roux-en-Y gastric bypass enhances energy expenditure and extend lifespan in diet-induced obese rats," *Obesity,* 17:1839-47 (2009).
28. Shin et al. "Longitudinal assessment of food intake, fecal energy loss and energy expenditure after Roux-en-Y gastric bypass surgery in high fat fed obese rats," *Obes Surg,* 23:531-540 (2013).



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The D-Diet

Sanjay Dhar, MD

There are several hundred different types of diets out there, so I figured why not add one more to the list, the Dhar Diet, or D-Diet. How difficult can it be to come up with a diet? All I need to do is read a few books, adopt some basic ideas, tweak the concept and present it with a new "designer" name.

Diets range from A (Atkins) to Z (Zone), and there is no shortage of advice regarding the different diet plans. You may decide to choose one and stick with it or seamlessly switch from one diet to another. However, with all the diets out there and the endless advice offered, why then are Americans getting heavier at a faster pace than ever before? It seems that it's a never-ending battle between the food industry pushing processed products that make us gain weight, and the diet industry, which has convinced us that we can never be satisfied with the way we are.

Is the truth somewhere in between? We do know that both these sectors are reaping billions of dollars in profits. Let us also not forget the consumer, who is the most important member in this complex relationship. Ultimately we have to be responsible for our actions, even though we know that we live in a free country where we can eat and drink whatever we want.

Dr. Dhar is a Santa Rosa cardiologist.

As a cardiologist, I have been giving dietary advice to my patients over the last 25 years. Diets come in various shapes and forms, with each having a tailored approach or a certain niche. My focus has been on preventing and hopefully reversing heart disease. I try to evaluate dietary habits rather than just giving a blanket order to "lose weight."

Patients often have difficulty following guidelines because of poor food labeling. The label on a jar of peanuts may report 200 calories, for example, but you have to read the fine print to realize that the calorie amount mentioned is per serving, and that there are several servings per package. Unless patients take the time to read the label in detail, they often consume many more calories in a single sitting than they think. (A cup of peanuts actually contains 830 calories). The same concept is also true for salt and corn syrup content in processed foods. Unfortunately, we don't have a fuel-gauge sensor in our body that tells us to stop eating when we have reached sustenance levels in calorie intake.

Why do people diet? Most do so to lose weight, to jumpstart the summer season, or to keep up with their new year's resolution. Some are forced to lose a lot of weight because they have become morbidly obese and it's affecting their health. Some diet to help their medical conditions, such as diabetes, hypertension, heart disease, arthritis of lower extremity joints, swelling of legs, reduced aerobic and functional capacity, exertional shortness of breath, easy fatigability, sleep apnea and abnormal cholesterol panels, to name a few. Some people have to change their diet because they have developed food intolerances, whether it's gluten, dairy, nuts or other food ingredients. Then there are some disease states that demand special attention to food choices, such as chronic kidney disease, gout or other metabolic conditions.

For my patients, I recommend a drawn-up plan, any plan that has a chance of being successful. Ultimately losing weight is simple mathematics: calories in vs. calories out … or is it? We know that under extreme starvation, everyone will lose weight. However, since starvation is not practical or sustainable, weight loss should occur without extreme effort or significant time consumption. A good diet plan should be effortless and simple and yet not boring.

Why do some people try their best and still not lose weight? The answer in part may be related to differences in metabolism. The difference might explain why two individuals eating the same food over a specified period of time may have major differences in either weight gain or weight loss. Currently we don't have a method or an app that can tell us exactly what a particular individual requires for sustenance. During the Ice Age, our human ancestors ate only when hungry and often consumed no food for days at a time. It is thus surprising that some current diets advise 5-7 meals throughout the day. Perhaps thousands of years in future we will have undergone such tremendous genetic change that skipping breakfast and lunch might result in death by dinner.

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Certain well-established programs, including a vegetarian diet, exercise and meditation, have been shown in studies to reduce arterial plaque. According to some people, however, eating cabbage soup three times a day might not be sustainable or make life worthwhile. The key to success for any diet is that it should be palatable, consist of locally available healthy food options (as opposed to hamburgers, pizza, etc.) and should not be time-consuming. Americans, for example, probably should not choose diets that require extracts from a rare Himalayan bush, seeds from an African fruit or South American root extract to help them lose weight. People from these regions may be of ideal weight in part because they consume these extracts, but perhaps more importantly because they don't eat a typical American diet and don't lead a typical American life.

Established and vetted diets are not without their uncertainties. Does a vegan diet make you less prone to heart attacks and cancer? Does changing to a gluten-free diet cure diabetes? If the Atkins diet reduces cholesterol and blood pressure, does it also reduce the risk of heart attacks? Controversies also result from diets that exclude essential nutrients, proteins, minerals and supplements. For example, some people swear by the Paleo diet. To them I say that we have left the Paleolithic ages far behind.

I would be remiss if I didn't consider an alternative point of view with regard to obesity, encompassing both cost and health. Treating obesity costs money and takes a financial toll on healthcare utilization. But what about the cost incurred by our society trying to combat the obesity epidemic? What if the amount spent to combat obesity from all sources (consumers, healthcare providers, advertisers) is greater than the cost of treatment? What if, as some maintain, it is possible to stay obese and healthy at the same time? In that case, it may be better to let people be obese as long as they adopt healthy eating habits and lifestyle. As in the Lady Gaga song, maybe they were "Born this Way."

Providers and corporations have a financial incentive to treat obesity, and they market this concept everywhere. There are billboards (10 days and 10 pounds or your money back) and TV programs (The Biggest Loser), along with ads of all kinds for gyms, diet plans, weight-loss centers, fat farms and so on. Some of them do present compelling messages, but some sound too good to be true. How can you lose weight by eating more? When all else fails, there is always bariatric surgery. Although complications are rare, mortality is not 0%, and some patients do end up having lifelong morbidities.

In a nutshell, it is for us as physicians to decide what is appropriate, how far to promote weight-loss strategies, and what reasonable goals are. It also is up to patients to find a mandate of their own choice and not be driven by outward pressure to look a certain way.

What we do know is that if you consume fresh fruits and vegetables (Mediterranean diet) and reduce intake of highly processed foods, deep-fried foods, artificial sweeteners, foods high in corn syrup, sodas, and saturated fats, you will most likely reduce the probability of becoming obese and/or developing chronic disease conditions linked to heart disease, diabetes and cancer.

So what is the D-Diet? It is simply an ideal diet (heart healthy), made fresh every day from local ingredients. It's not a liquid diet and it doesn't come in small containers, cans or cardboard boxes. It's effortless to follow, quick and easy to make, and is loaded with all kinds of flavors, colors and textures to take you on a pleasing gastronomic cruise. It doesn't affect your bodily systems in any way, and there are new food choices every day. There are no worries about how much to eat and when to eat. It doesn't cost a whole paycheck. And by the way, I am still working on it. ◇

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Out of the Shadows

Stacey Kerr, MD

Three days after her chemo infusion for metastatic breast cancer, Claire (not her real name) would begin to feel the side effects. Pain, nausea, and anxiety—all severe and debilitating. She wasn't very open to using cannabis; she had tried it in her youth and didn't like what she called the "woozies." Then a caretaker gave her some cannabis that was rich in cannabidiol (CBD), cannabis with so little tetrahydrocannabinol (THC) that it would not get her high. She somewhat reluctantly agreed to use the cannabis in a vaporizer after her next chemo infusion.

I got a call from Claire the first day she tried the cannabis. She was crying, shocked and overwhelmingly grateful that one inhalation had worked more quickly and completely than any of the prescribed drugs she had tried during her four years fighting cancer. My relief was almost as great as hers, and in helping Claire get through her trials, I began to study the science of cannabis.

For just a few minutes, try to set aside your ideas and opinions about cannabis. Forget about the pot-heads, the pot-docs, the stoners, the jokes, the dispensaries, the bud tenders and the feds. Consider cannabis as a medicine with the potential to help patients without fatal side effects. Cannabis was part of the physician formulary for centuries prior to its vilification in 1937. In *The Principles and Practice of Medicine* (1892), for example, Sir William Osler wrote, "Cannabis indica is probably the most satisfactory remedy" for treating migraine headaches. Recent evidence suggests that cannabis may have untapped potential with fewer side effects than many of our current formulary drugs.

Raphael Mechoulam, PhD, is a professor of medicinal chemistry at the Hebrew University of Jerusalem, where he has been working on cannabinoid chemistry for more than 50 years. In 1964, he and his colleague Yehiel Gaoni identified and synthesized THC, but many years would pass before a study found receptor sites in the mammalian brain that responded to radioactively tagged THC synthetic analogs.[1] The receptors in the central and peripheral nervous system were dubbed CB1. Soon another set of receptors, CB2, was identified, primarily outside the brain.[2] Researchers concluded that if we have these receptors throughout the body—an endocannabinoid system—we must have naturally occurring cannabinoids to bind with them. The search was on!

In 1992, Dr. Mechoulam and colleagues found a neurotransmitter, a naturally occurring endocannabinoid that attaches to the same mammalian brain-cell receptors as THC. They named it "anandamide," derived from the Sanskrit word for bliss. Several years later, researchers isolated a second endocannabinoid, 2-arachidonylglycerol (2-AG). Scientists now had three ways to study the endocannabinoid system by using phytocannabinoids, synthetic cannabinoids or endocannabinoids.

In 1985, the FDA approved Marinol, an isolated form of pure THC. Strangely, they approved the most psychoactive component, with the most debilitating side effects. But patients regularly reported better effects with the whole plant, and a synergy of active components has subsequently been described.[3] Cannabis is known to have over 70 different phytocannabinoids, possibly only one of which is psychoactive (THC). Many have been now been isolated and are believed to have different therapeutic effects (see figure on next page). As the ratio of THC to other cannabinoids gets lower, the psychoactive effect is reduced, and the therapeutic potential may be increased.

Dr. Ethan Russo, a board-certified neurologist with over 20 years of clinical cannabis experience, has dedicated a great part of his professional life to bringing cannabis and other botanical medicines back into the mainstream of medicine. In 2011, he published a paper exploring yet another class of phytotherapeutic agents present in cannabis: the terpenoids, including limonene,

Dr. Kerr, a retired Santa Rosa family physician, serves on the Board of the Society of Cannabis Clinicians, a position that enables her to support education and research on cannabinoid medicine. She does not maintain a practice in cannabis recommendations.

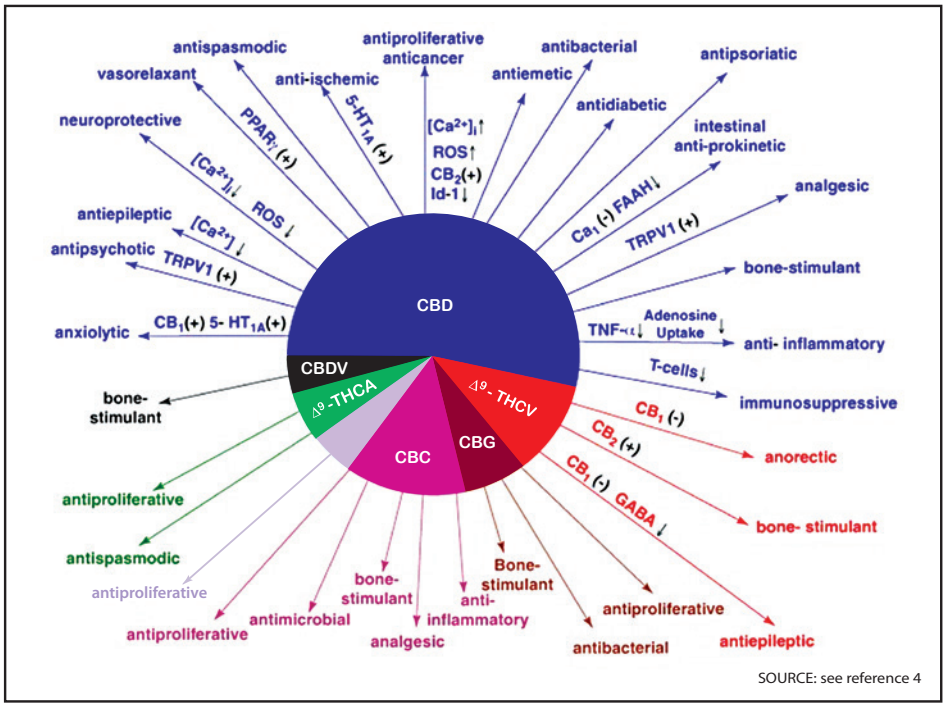

Figure: Non-psychotropic plant cannabinoids

myrcene, a-pinene, linalool, b-caryophyllene, caryophyllene oxide, nerolidol and phytol.[3] These findings suggest that there is more to cannabis than any single agent that can be isolated.

Laboratory and clinical research on cannabis is growing rapidly. The International Cannabinoid Research Society (www.icrs.co), for example, is a professional organization with over 500 members dedicated to biochemical, biophysical and physiologic studies of cannabinoids. For 20 years they have sponsored annual symposia all over the world to share scientific evidence.

Here in the United States, the Society of Cannabis Clinicians (www.cannabisclinicians.org) is a 501c3 nonprofit dedicated to research and education in the field, and to the integrity of cannabis as medicine. Research is coming out of Israel, Germany, England, Canada, Italy, even the United States.

Current studies are examining the use of cannabis for treating multiple sclerosis, breast cancer, colon cancer, Crohn's Disease, gliomas, neuropathic pain, Alzheimer's disease, diabetes, PTSD, MRSA, and addiction disorders (see sidebar). The treatment and prevention of cancer metastases is one of the most exciting fields of research, some of which is being done in Northern California at the CPMC Research Institute.

More well-designed studies are needed, and the barriers are many as long as cannabis remains classified as a Schedule I drug and as long as it lacks respect in the medical community. Investigational review boards are hesitant to review cannabis studies. In 2012, the *Open Neurology Journal* published a federally funded study that concluded: "The classification of cannabis as a Schedule I drug as well as the continuing controversy as to whether or not cannabis is of medical value are obstacles to medical progress in this area."[5]

Why consider a therapeutic option with so little control and so much controversy when we have less controversial pharmaceuticals? When we can use medications with known dosages and easily controlled amounts?

Pharmaceuticals often have dangerous side effects and black-box warnings. But unlike medications that bind to opioid receptors, cannabis cannot kill. Cannabinoid receptors, unlike opioid receptors, do not block the respiratory drive or cardiac function, resulting in cardiopulmonary collapse and death. In 1988, a judge ruling on a marijuana rescheduling petition for the Drug Enforcement Agency found that, "At present it is estimated that marijuana's LD50 is around 1:20,000 or 1:40,000. In layman terms this means that in order to induce death a marijuana smoker would have to consume 20,000 to 40,000 times as much marijuana as is contained in one marijuana cigarette. . . . A smoker would theoretically have to consume nearly 1,500 pounds of marijuana within about 15 minutes to induce a lethal response."[6]

Nonetheless, the effects of too much THC are unpleasant, including panic attacks, lethargy, drowsiness, hypotension, catalepsy and other unwelcome symptoms. These may trigger a call for paramedics, but the patient will not die from THC overdose.

As with most medication, over- or inappropriate use of cannabis is not advised. It may not be good medicine for the young and still-developing brain, although some strains may be effective for childhood seizure disorders, ADHD, cancers and autism.[7–10] On the other hand, there are reports of lowered IQ and increased incidence of schizophrenia in young people using cannabis.

Can cannabis cause a heart attack? There are hemodynamic effects that include a transient, dose-dependent increase in heart rate, supine hypertension, and postural hypotension, and in susceptible individuals cannabis may be a rare trigger for myocardial infarction.[11] Animal models, however, show cardiovascular protective effects.[12,13]

Is smoking marijuana worse on the lungs than smoking cigarettes? Dr. Donald Tashkin, medical director of the Pulmonary Function Laboratory at UCLA, did the research and was surprised by his findings. Not only was there no long-term lung damage due to habitual smoking of cannabis, but it appeared to be somewhat protective against lung cancer.[14] Cannabis can cause chronic bronchitis, which resolves when the patient quits smoking, but no increased incidence of cancer, COPD or other lung function has been found.[15,16]

Cannabis can impair skills required to drive motor vehicles in a dose-related fashion, but the data is inconclusive when evaluating the association of traffic accidents and the use of cannabis.[17] There are no legally unsafe thresholds like those established with alcohol, and the altered state is not comparable to being affected by alcohol or opiates. In fact, one recent study showed patients with the spasticity of MS were actually safer driving after using marijuana.[18] Nonetheless, it is wise to recommend that patients not drive a vehicle of any sort after using cannabis as medicine.

Some patients have unpleasant, temporarily adverse reactions to cannabis; it is prudent to start a naïve patient with small doses with very little psychoactive THC while tolerance is evaluated. Dosing and appropriate ratio of cannabinoids for specific conditions has yet to be established, so finding the right medicine is a "best guess" situation and patients must self-titrate. Different strains have distinct physiologic effects, and individual patients can respond differently to the same medicine. However, some therapeutic patterns have been revealed. THC, for example, seems to be helpful for appetite, and CBD seems to be helpful for anxiety and insomnia.

Can we take all the THC out of the mix and simply treat with the non-psychoactive components? Isolating specific constituents does not seem to work when it comes to cannabinoid medicine. Clinical response to cannabis with absolutely no THC has been discouraging, and it appears some THC is needed for most conditions, but the ratio can be such that the psychoactive effects are well tolerated or not felt at all. Cannabinoid metabolism is known to be through the Cytochrome P450 2c and 3a families, so other drugs metabolized through these families may be affected by the use of cannabis.[19]

Vapor is less irritating to the mucosa than smoke, and for rapid relief, inhaling vapor is considered better than smoking. Ingesting is more effective for longer-lasting effects. Caution must be used when ingesting: the liver metabolizes THC to a strong psychoactive cannabinoid (11-hydroxytetra-hydrocannabinol) that can cause dose-related severe and unpleasant side effects lasting many hours. However, the tachyphylaxis that occurs in the liver does allow for eventual tolerance of higher doses when indicated, as has been shown in the case of pancreatic cancer.[20]

The use of cannabis as a legal recreational drug is a separate issue, but even recreational use is not as problematic as use of alcohol, opiates, cocaine or heroin. In fact, harm-reduction specialists have found that intermittent use of cannabis may help addicts stay clean.[21]

Many doctors are unwilling to even discuss the use of cannabis with their patients because they know little about uses, dosage, availability, adverse reactions, or methods of administration. Without more research, we are still in the infancy of full understanding and appropriate implementation.

Studying the best use of cannabis as medicine, and learning how to advise our patients, are current needs. Being able to provide this advice with reliable scientific support is the wave of the not-so-distant future. ◇

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Recent Cannabis Studies

Alzheimer's Disease

Eubanks LM, et al, "Molecular link between the active component of marijuana and Alzheimer's disease pathology," *Mol Pharm,* 3:773–777 (2006).

Breast Cancer

Caffarel MM, et al, "Cannabinoids reduce ErbB2-driven breast cancer progression through Akt inhibition," *Mol Cancer,* 9:196 (2010).

McAllister SD, et al, "Pathways mediating the effects of cannabidiol on the reduction of breast cancer cell proliferation, invasion, and metastasis," *Breast Cancer Res Treat,* 129:37–47 (2011).

McAllister SD, et al, "Cannabidiol as a novel inhibitor of Id-1 gene expression in aggressive breast cancer cells," *Mol Cancer Ther,* 6:2921-27 (2007).

Chronic Neuropathic Pain

Ware MA, et al, "Smoked cannabis for chronic neuropathic pain: a randomized controlled trial," *CMAJ,* 182:E694-E701 (2010).

Crohn's Disease

Naftali T, et al, "Cannabis induces a clinical response in patients with Crohn's disease, *Clin Gastro & Hepa,* 11:1276–80 (2013).

Diabetes

Penner EA, et al, "Impact of marijuana use on glucose, insulin, and insulin resistance among US adults," *Am J Med,* 126:583-589 (2013).

Rajavashisth TB, et al, "Decreased prevalence of diabetes in marijuana users," *BMJ Open,* 2:1 (2012).

Gliomas

Solinas M, et al, "Cannabidiol, a non-psychoactive cannabinoid compound, inhibits proliferation and invasion in u87-mg and t98g glioma cells through a multitarget effect," *PLOS One* (Oct. 21, 2013).

Hepatocellular Cancer

Vara D, et al, "Anti-tumoral action of cannabinoids on hepatocellular carcinoma," *Cell Death Differ,* 18:1099–1111 (2011).

MRSA

Appendino, et al, "Antibacterial cannabinoids from Cannabis sativa," *J Natural Products,* 71:1427-30 (2008).

Prostate Cancer

Olea-Herrero N, et al, "Inhibition of human tumour prostate PC-3 cell growth by cannabinoids," *Brit J Cancer,* 101:940-950 (2009).

Taxol-Induced Neuropathy

Naguib M, et al, "Prevention of paclitaxel-induced neuropathy through activation of the central cannabinoid type 2 receptor system," *Anes & Analg,* 114:1104-20 (2012).

References

1. Devane WA, et al, "Determination and characterization of a cannabinoid receptor in rat brain." *Molec Pharm,* 34:605-613 (1988).
2. Munro, et al, "Molecular characterization of a peripheral receptor for cannabinoids," *Nature,* 365:61-65 (1993).
3. Russo EB, "Taming THC," *Br J Pharm,* 163:1344-64 (2011).
4. Izzo AA, et al, "Non-psychotropic plant cannabinoids," *Trends Pharma Sci,* 30:515-27 (2009).
5. Grant I, et al, "Medical marijuana," *Open Neurology J,* 6:18-25 (2012).
6. Young FL, "In the matter of marijuana rescheduling petition," Drug Enforcement Administration, Docket No. 86-22 (Sept. 6, 1988).
7. Pelliccia A, et al, "Treatment with CBD in oily solution of drug-resistant paediatric epilepsies," presentation at Leiden Congress on Cannabis and the Cannabinoids (2005).
8. Strohbeck-Kuehner P, et al, "Cannabis improves symptoms of ADHD," *Archiv fur Kriminologie,* 220:11-19 (2007).
9. Foroughi, et al, "Spontaneous regression of septum pellucidum / forniceal pilocytic astrocytomas," *Child's Nervous System,* 27:671-679 (2011).
10. Foldy C, et al, "Autism-associated neuroligin-3 mutations commonly disrupt tonic endocannabinoid signaling," *Neuron,* 78:498–509 (2013).
11. Mittleman MA, et al, "Triggering myocardial infarction by marijuana," *Circulation,* 103:2805-09 (2001).
12. Hiley CR, Ford WR, "Cannabinoid pharmacology in the cardiovascular system," *Biol Rev Camb Philos Soc,* 79:187-205 (2004).
13. Lamontagne D, et al, "Endogenous cardiac cannabinoid system," *Arch Mal Coeur Vaiss,* 99:242-246 (2006).
14. Tashkin DP, "Effects of marijuana smoking on the lung," *Ann Amer Thoracic Soc,* 10:239-247 (2013).
15. Ramer R, et al, "Cannabidiol inhibits lung cancer cell invasion and metastasis," *FASEB J,* 26:1535-48 (2012).
16. Sarafian TA, et al, "Oxidative stress produced by marijuana smoke," *Am J Resp Cell & Mol Biol,* 20:1286-93 (1999).
17. Sewell RA, et al, "Effect of cannabis compared with alcohol on driving," *Am J Addic,* 18:185-193 (2009).
18. Freidel M, et al, "Treatment of resistant MS spasticity with THC:CBD spray and effects on driving ability," ECTRIMS conference poster (Copenhagen, 2013).
19. Russo E, Grotenhermen F, *Cannabis and Cannabinoids: Pharmacology, Toxicology and Therapeutic Potential,* Hayworth Integrative Healing Press (2002).
20. Michalski, et al, "Cannabinoids in pancreatic cancer," *Int J Cancer,* 122:742-750 (2008).
21. Raby WN, et al, "Intermittent marijuana use is associated with improved retention in naltrexone treatment for opiate-dependence," *Am J Addict,* 18:301–308 (2009).

CORRECTION

The Winter 2014 issue incorrectly stated Dr. Walter Mills' new job title. He is a faculty member at the Family Medicine Residency Program at the Natividad Medical Center in Salinas.

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How Good is the Evidence?

Allan Bernstein, MD

According to a recent survey, almost 50% of American adults take some form of vitamins and/or supplements.[1] Vitamins and supplements are a $28 billion industry with significant political clout and a carefully crafted exemption from the FDA requirements for efficacy, safety and manufacturing standards that apply to prescription medications.[2] While there are specific medical conditions where the use of nutritional supplements is recommended, such as folic acid in pregnancy, the vast majority of users report taking these substances to "feel well" or to prevent illness.

How good is the evidence, and what are the potential risks? Below are summaries of several clinical trials of vitamins and supplements.

• Earlier this year, the U.S. Preventive Services Task Force reported no benefit from taking vitamins to reduce the risk of cardiovascular disease (including stroke) or cancer.[3] The task force also noted the increased risk of cancer in smokers who took supplemental beta carotene. Other large studies, such as the Women's Health Initiative, found no protective effects of vitamin D in preventing cancer or heart disease, though when used with calcium it reduced fractures in a population of older women.[4] Fish oil, another common supplement, failed to reduce cerebrovascular disease in a large trial in Italy.[5] Fish oil also failed to reduce macular degeneration and failed to improve symptoms of Alzheimer's disease in additional trials.

Dr. Bernstein, a Sebastopol neurologist, serves on the SCMA Editorial Board.

• Homocysteine, a known contributor to premature atherosclerosis, stroke and cardiovascular disease, is metabolized by vitamins B-6, B-12 and folic acid. Treating patients with mildly elevated homocysteine with these vitamins did not reduce the incidence of stroke or cardiovascular events. The Vitamin Intervention for Stroke Prevention trial showed no difference in stroke outcome between high- and low-dose vitamin (B-12, B-6, folic acid) supplementation groups.[6] The lower doses were ones that can be gotten from common foods.

• Free radicals are formed in reaction to tissue breakdown in a range of conditions from vigorous exercise to strokes. Free radical scavengers such as vitamins C and E have been proposed as a way to limit stroke damage and promote faster recovery time from exercise. Mitochondrial formation, a marker of muscle recovery, was reduced in users of the supplements compared to a control group taking placebos, exercising at the same rate.[7] The proposed benefit was found to have the opposite effect.

• In stroke studies, preloading with vitamin E in dogs reduced the size of the infarcts. However, there was no benefit from adding vitamin E after the event, though there was increased cardiotoxicity. The dose needed for protection was only calculated in dogs. Resveratrol, another antioxidant found prominently in red wine, was tested against placebo in a group of exercisers.[8] The placebo group had better outcomes regarding blood pressure, cholesterol and plaque buildup.

• In the Heart Protection Study, a combination of vitamin E (600 IU alpha-tocopherol only), vitamin C, and beta-carotene did not affect mortality.[9] However, it did cause a significant, albeit small, increase in total cholesterol, low-density lipoprotein (LDL) cholesterol, and triglycerides, as well as a decrease in high-density lipoprotein (HDL) cholesterol. In the Selenium and Vitamin E Cancer Prevention Trial, vitamin E supplementation was shown to increase the risk of prostate cancer in healthy men.[10]

• In the Heart Outcomes Prevention Evaluation study, a randomized trial examining the effects of 400 IU of vitamin E versus those of a placebo in patients with diabetes or vascular disease, vitamin E did not decrease the incidence of cancer deaths or vascular events during follow-up (mean 7.2 yrs).[11] Evidence indicated, however, that it did increase the incidence of heart failure.

• The DATATOP study using 2000 IU of vitamin E in treating early diagnosed Parkinson's disease showed no benefit, though no toxicity was noted in this cohort of elderly individuals followed for 7 years.[12] Finally, CoQ10, initially thought to produce mild benefit in Parkinson's disease, was later found to have no benefit verses placebo. Studies on CoQ10 and cancer have failed to show significant benefit.

The role of supplements in preventing illness has consistently failed in clinical trials and yet, in animal studies, nutritional additives seem to prevent the development of illness. Perhaps our genetically programmed lab animals on structured lab diets don't really reflect our human omnivorous diets that often change over time, since we eat differently as adults than we did as children or teenagers. Our 70-plus year life span doesn't compare to our lab rat with a two-year life span. We often stress our systems with toxic environments, artificial foods and a multitude of medications, both prescribed and OTC. These stresses are not reflected in animal studies. The extrapolation of dietary studies from animals to humans has consistently failed to live up to expectations.

In deficiency syndromes, however, there is a real need for supplementation. But since we don't have scurvy, beriberi or kwashiorkor locally, why are we taking all these pills? In developing countries, with diets often deficient in B vitamins and beta carotene, supplements can be life-saving. In a study in Indonesia, adding vitamin A every six months produced a significant decrease in childhood deaths by reducing diarrheal illness. Adding vitamins to the flour in the U.S. has decreased the incidence of Wernicke's encephalopathy relative to countries with the same alcohol intake but no supplementation. Vitamin C deficiency in POW camps in World War II was probably the last time modern-day physicians encountered scurvy.

The benefits of supplements are related to specific medical conditions. As such, they should be classified as drugs and regulated accordingly. Below I discuss some of the benefits and risks.

• B-12 deficiency is increasingly prevalent in the aging population. This may reflect chronic antacid use, overuse of alcohol, bypass surgery, or aging of the stomach lining. The effect may be seen in cognition and balance issues, where additional B-12 may be dramatically therapeutic.

• Magnesium and B-2 have been studied in migraine, with class A evidence of effectiveness. B-6 has been studied in carpal tunnel syndrome, ADHD and childhood epilepsy. As a pharmaceutical agent, at 100 mg/day, B-6 has been an effective treatment, while adding a multivitamin containing 2-5 mg of B-6 produces no benefit. Vitamin B-6 produces neurotoxicity when taken at doses greater than 250 mg/day over six months or longer.[13]

• Alcohol in small doses has been documented as lowering the risk of heart attacks and strokes. Clearly, more alcohol is not better, for multiple reasons, including increasing the risk of heart attack and stroke when alcohol intake goes up. Are vitamins and supplements any different? Modest amounts, appropriately balanced and available in our diets, are probably protective against an array of ailments. Concentrated versions may produce unanticipated risks.

• Vitamin A and its pharmaceutical relative tretinoin (Retin-A), while an excellent treatment for acne, is teratogenic and potentially lethal in high doses. It causes cerebral edema, hypertension, depression and a pseudo-dementia state. All are reversible if the cause can be isolated, though many people don't consider OTC medications something to report to their physician and often don't include topical preparations in the list.[14]

• Vitamin C, reported to cure the common cold and prevent cancer, did neither in multiple studies, in spite of Linus Pauling's eloquent claims to the contrary. He personally took 10 grams a day (RDA is 50 mg), but still got colds, though he avoided the kidney stones that can occur at those doses.

• Vitamin D has a multitude of physiologic functions, including immune modulation and infection prevention, but adding vitamin D has only been effective in improving bone structure. Attempts at treating immune-mediated conditions, such as MS, have failed to produce lasting benefit.

• Feverfew, supposedly a preventive of migraine, was effective in one series of studies, all carried out at a hospital in England, where they gathered the herb from their own garden. Attempts at replicating the studies have failed.

• Gingko biloba, often recommended to treat dementia by increasing blood flow, can increase bleeding throughout the body and increase the risk of strokes and seizures. When taken with aspirin, the bleeding risk increases substantially.

Controversy abounds about all the studies. A headline in a nutrition newsletter sponsored by a supplement company states, "Bogus vitamin E study used single-form, synthetic variety to claim nutrient causes bone loss." Their "super" pills had multiple tocopherols, which can also be found in a handful of walnuts or almonds, which they neglected to mention.

In summary, nutrients abound in our diets. They are available in appropriate forms for ingestion, absorption and metabolism. They are nutritionally balanced in proportion to each other. Studies attempting to show that supplements can prevent disease or improve function in healthy adults have failed to validate their hypotheses, often developed in animal models.

There is still a role for these chemicals as pharmaceutical agents, in treating specific disease states, including iatrogenic conditions such as drug-induced deficiencies or chemotherapy. Self-induced states of impaired nutrition such as extreme diets, high alcohol consumption and eating disorders may require supplementation, and toxic exposures may impair our ability to absorb and metabolize nutrients properly. The best nutritional advice should start with "An apple a day . . . ". ◇

Email: bernsteinallan@gmail.com

References

1. Bailey RL, et al, "Why US adults use dietary supplements," *JAMA Intern Med,* 173:355-361 (2013).
2. Denham BE, "Dietary supplements: regulatory issues and implications for public health," *JAMA,* 306:428-429 (2011).

3. USPSTF, "Vitamin, mineral and multivitamin supplements to prevent cardiovascular disease and cancer," *Ann Int Med online* (Feb. 25, 2014).
4. Prentice RL, et al, "Health risks and benefits from calcium and vitamin D supplementation," *Osteoporo Int*, 24:567-580 (2013).
5. Risk and Prevention Study Collaborative Group, "n-3 fatty acids in patients with multiple cardiovascular risk factors," *NEJM*, 368:1800-08 (2013).
6. Toole JF, et al, "Lowering homocysteine in patients with ischemic stroke to prevent recurrent stroke, myocardial infarction, and death," *JAMA*, 291:565-575 (2004).
7. Gomez-Cabrera MC, et al, "Oral administration of vitamin C decreases muscle mitochondrial biogenesis and hampers training-induced adaptations in endurance performance," *Am J Clin Nutr*, 87:142-149 (2008).
8. Olesen J, et al, "Exercise training, but not resveratrol, improves metabolic and inflammatory status in skeletal muscle of aged men," *J Physiol*, Epub ahead of print (Mar. 3, 2014).
9. Heart Protection Study Collaborative Group, "Heart Protection Study of cholesterol-lowering therapy and of antioxidant vitamin supplementation in a wide range of patients at increased risk of coronary heart disease death," *Eur Heart J*, 20:725-741 (1999).
10. Lippman SM, et al, "Effect of selenium and vitamin E on risk of prostate cancer and other cancers," *JAMA*, 301:39-51 (2008).
11. Hoogwerf BJ, Young JB, "The HOPE study: ramipril lowered cardiovascular risk, but vitamin E did not," *Cleve Clin J Med*, 67:287-293 (2000).
12. Parkinson Study Group, "DATATOP: a multicenter controlled clinical trial in early Parkinson's disease," *Arch Neurol*, 46:1052-60 (1989).
13. Bernstein, AL, "Vitamin B-6 in clinical neurology," *Ann NY Acad Sci*, 585:250-260 (1990).
14. Bernstein, AL, Leventhal JL, "Neurotoxicity associated with topical tretinoin (Retin-A)," *Ann Int Med*, 124:227-228 (1996).

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PROTECT ACCESS
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YOU MAY BE AWARE of a trial attorney-sponsored ballot measure that would undermine the protections afforded to patients across California as part of the Medical Injury Compensation Reform Act (MICRA).

THIS NOVEMBER, these trial attorneys will ask voters to weigh in on "The Troy and Alana Pack Patient Safety Act," which would make it easier and more profitable for lawyers to sue doctors and hospitals. This measure, according to California's independent Legislative Analyst, could increase state and local government malpractice and health care costs by "hundreds of millions of dollars annually," ultimately placing the burden of this additional cost on all of us.

AS IT STANDS NOW, county and state hospitals have to pay medical malpractice awards out of the budgets they receive from taxpayers. If medical malpractice awards increase, government costs will increase too. Somebody has to pay, and that will be taxpayers through higher taxes and California citizens through higher health care costs.

ADDITIONALLY, this measure would vastly increase the number of lawsuits filed in California. That's why the independent Legislative Analyst says that county and state hospitals will see costs of tens of millions of dollars that taxpayers will have to pay.

THE CALIFORNIA MEDICAL ASSOCIATION (CMA) has joined a broad coalition of doctors, community health clinics, hospitals, local governments, public safety, business a.nd labor to oppose the proposed November ballot proposition. Visit www.cmanet.org/micra for more information about what CMA is doing in this fight and how to get involved.

NOT ONLY WOULD THIS MEASURE cost patients across the state, it's a misleading measure intended to fool voters. Written by trial attorneys, the measure makes it easier and more profitable for lawyers to sue doctors and hospitals—even if that means higher health costs for the rest of us. Our health laws should protect access to care and control costs for everyone, not increase lawsuits and payouts for lawyers.

YOU'LL HEAR A LOT OF RHETORIC from the proponents of the measure, but really, this is another example of special-interest legislation trying to fool the voters into thinking this is about something that it's not. The authors of this proposal purposely threw in non-MICRA provisions, like drug-testing doctors, to disguise the real intent, which is to increase the limits on medical malpractice awards so that trial lawyers make even more money. The main proponent of the measure was recently quoted in the *LA Times,* saying, "The drug rules are in the initiative because they poll well, and the backers figure that's the way to get the public to support the measure. It's the ultimate sweetener."

THIS MEASURE also requires a government database with personal information on patients' prescription drug history. Hackers have already managed to access personal information from millions of Target customers and even the Pentagon, and another big database will only make our information more vulnerable.

PHYSICIANS TAKE AN OATH to protect patients—and this dangerous initiative would put patients at risk of losing access to quality medical care.

COMMUNITY HEALTH CARE CLINICS, such as Planned Parenthood, say this measure will raise insurance costs that will cause OB/GYNs and other specialists to reduce or eliminate services to their patients. Finding doctors to deliver children in rural areas and community clinics is already difficult, and reducing services will make a bad situation worse.

OVER 1,000 GROUPS have joined together in support of MICRA and in opposition to this dangerous, costly measure. Be part of the effort to protect patients by visiting **www.cmanet.org/micra** today!

SAVINGS OF OVER $93,000

The Medical Injury Compensation Reform Act (MICRA) is California's hard-fought law to provide for injured patients and stable medical liability rates. But this year California's trial lawyers have launched an attack to undermine MICRA and its protections, and we need your help. Membership has never been so valuable!

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2012 SONOMA COUNTY MICRA SAVINGS CHART*

	General Surgery	Internal Medicine (Non-invasive)	OB/GYN	Average
Sonoma County, CA	$28,147	$7,976	$38,865	$24,996
Miami & Dade Counties, FL	$190,088	$46,372	$201,808	$146,089
Nassau & Suffolk Counties, NY	$127,233	$34,032	$204,684	$121,983
Wayne County, MI	$121,321	$35,139	$108,020	$88,160
FL-NY-MI Average	$146,214	$38,514	$171,504	$118,744
MICRA SAVINGS	**$118,067**	**$30,538**	**$132,639**	**$93,748**

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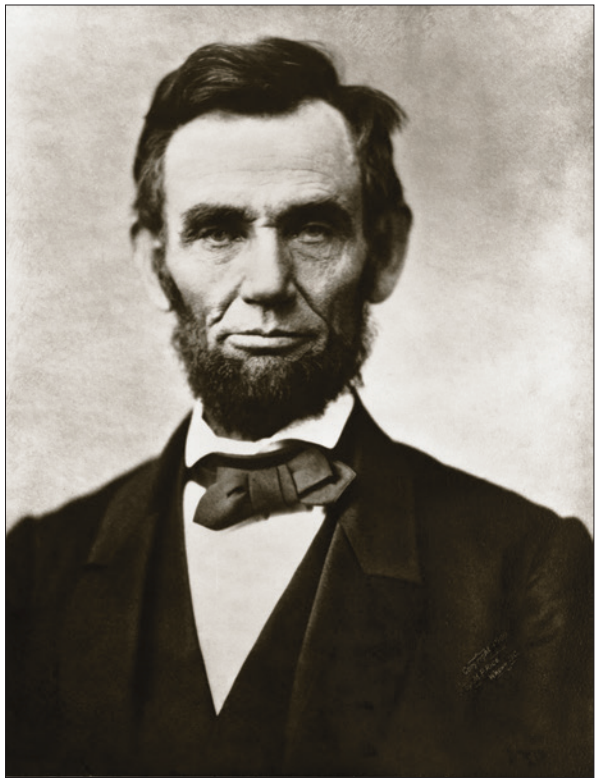
** Medical Liability Monitor - Annual Rate Survey Issue, Vol. 37, No. 10, October 2012. Annual rates with limits of $1 million/$3 million.*

Collecting Lincoln

Bob Field, MD



I was born and raised in Central Illinois, where the Lincoln legend remains a pervasive part of the local culture. This fact was made clear to me as a young man, when I literally stumbled upon a small, obscure rural cemetery in which Lincoln's father and stepmother were buried. In predictable accordance with Lincoln's humble origins, the grave sites were simple, with no large monument or signage to indicate their peripheral but significant relationship to our 16th president.

Since that time, I have been absolutely captivated as to how it was possible for someone of Lincoln's lowly origin and meager education to ascend to the pinnacle of power and become one of our country's most articulate and courageous presidents.

For the past 15 years, I have collected letters, signed documents and written sentiments of Lincoln and his close associates to try to understand the influences and forces that contributed to making this backwoodsman into a powerful and iconic historical figure. My collection, including the examples presented on the following pages, consists of over 100 items dating from Lincoln's first raft trip down the Mississippi River until just after his assassination.

Dr. Field, a Santa Rosa ob-gyn, is an avid collector of Lincoln memorabilia.

1. Check signed by Allen Gentry

In the spring of 1828, at age 19, Lincoln accompanied Allen Gentry on a flatboat trip to New Orleans. This significant voyage was Lincoln's first exposure to the slave trade and left him with an indelible memory of that "peculiar institution."

2. Document signed by Bowling Green

Bowling Green, a justice of the peace, was a mentor and father figure during Lincoln's early days in New Salem. The rotund Green had a profound influence on Lincoln, encouraging him to further his self-education and run for the state legislature. At Green's funeral in 1842, Lincoln was so emotionally distraught that he was unable to deliver the eulogy.

3. Marriage license of William Wallace and Frances Todd

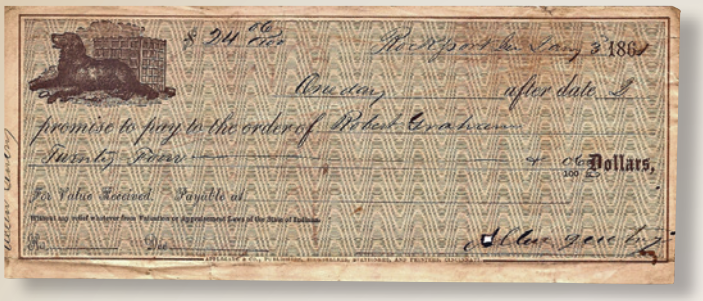
William Wallace was a Springfield physician who cared for the Lincoln family. In 1839 he married Frances Todd, sister of Mary Todd. The Rev. Charles Dresser, who signed the Wallace-Todd marriage license, later performed the marriage between Lincoln and Mary Todd. The Lincolns subsequently purchased their Springfield home from Rev. Dresser, and they named their third son William Wallace Lincoln in honor of his uncle.

4. Joshua Fry Speed letter to Joseph Gillespie

Joshua Fry Speed is felt by many historians to be Lincoln's most intimate lifelong friend. They roomed together for five years just after Lincoln moved to Springfield. In this 1876 letter, Speed invites their mutual friend Joseph Gillespie to Louisville and states, "… by each making some memoranda of our reminiscences of Lincoln's early life—perhaps contribute something of value to the world—about our lost but much loved friend."

5. Letter from Lincoln praising Joseph Gillespie

In September 1849, Lincoln expressed his respect for Joseph Gillespie, a close friend and colleague, whom he described as "a most judicious and reli-



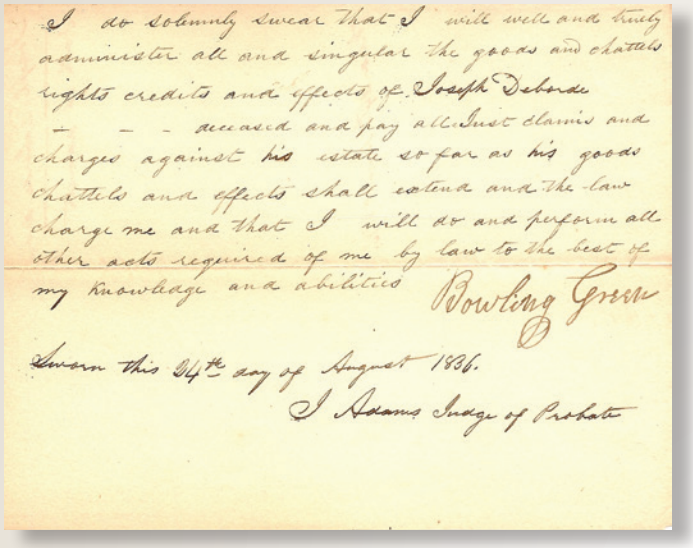
$ 24 00/100 Montgomery May 3 1864

One day after date I promise to pay to the order of Robert Graham Twenty Four 00/100 Dollars,

For Value Received. Payable at

Allen Gentry

1. Check signed by Allen Gentry

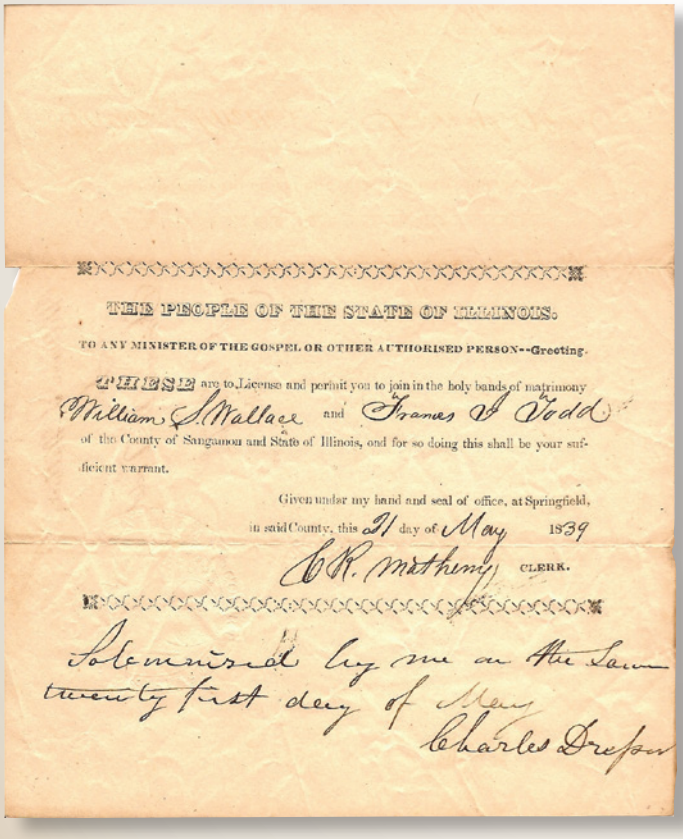


I do solemnly swear that I will well and truly administer all and singular the goods and chattels rights credits and effects of Joseph Deboe — — — deceased and pay all just claims and charges against his estate so far as his goods chattels and effects shall extend and the law charge me and that I will do and perform all other acts required of me by law to the best of my knowledge and abilities Bowling Green

Sworn this 24th day of August 1836.

I Adams Judge of Probate

2. Document signed by Bowling Green



THE PEOPLE OF THE STATE OF ILLINOIS.

TO ANY MINISTER OF THE GOSPEL OR OTHER AUTHORISED PERSON--Greeting.

THESE are to License and permit you to join in the holy bands of matrimony William S Wallace and Frances P Todd of the County of Sangamon and State of Illinois, and for so doing this shall be your sufficient warrant.

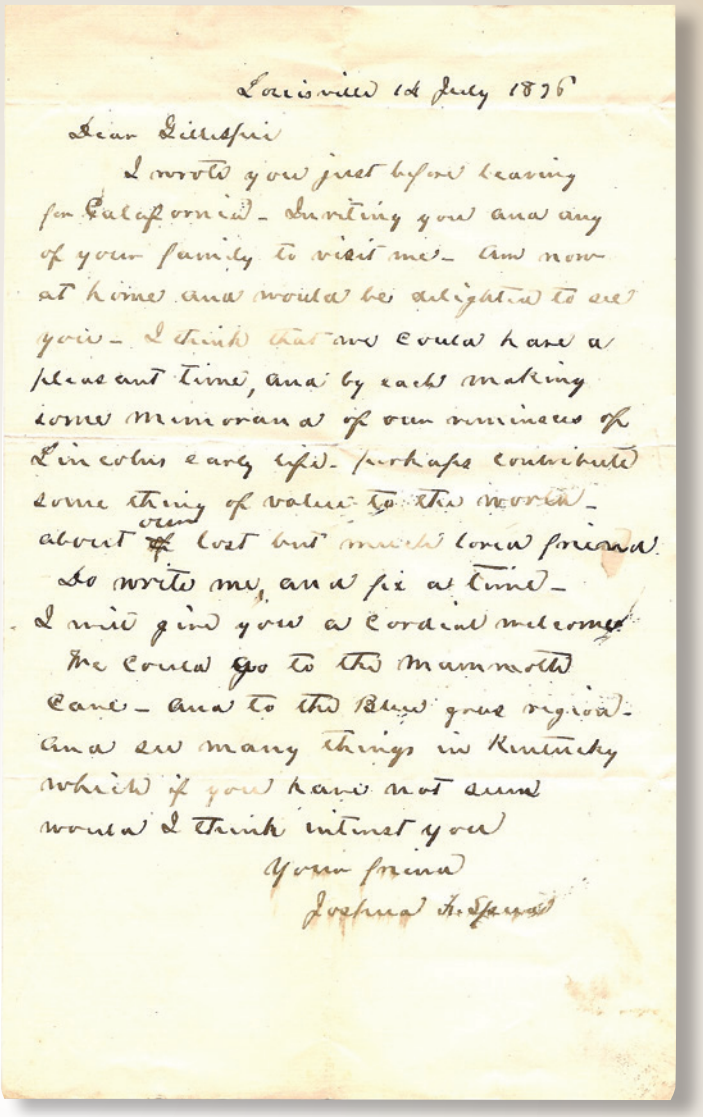
Given under my hand and seal of office, at Springfield, in said County, this 21 day of May 1839

A R Mathews CLERK.

Solemnized by me on the same twenty first day of May

Charles Dresser

3. Marriage license of William Wallace and Frances Todd



Louisville 1st July 1876

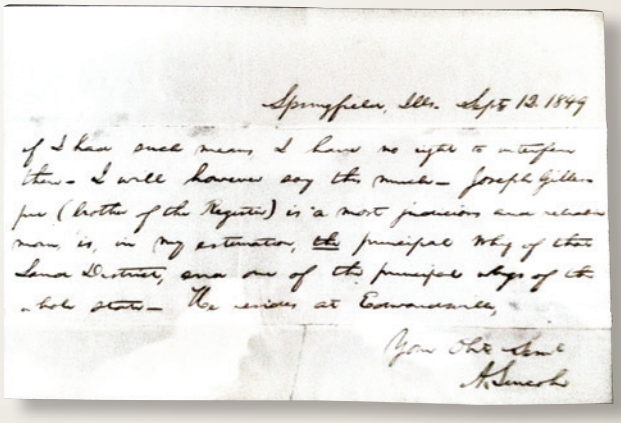
Dear Gillespie

I wrote you just before leaving for California - desiring you and any of your family to visit me - am now at home and would be delighted to see you - I think that we could have a pleasant time, and by each making some memoranda of our reminiscences of Lincolns early life - perhaps contribute some thing of value to the world - about him lost but much loved friend. Do write me, and fix a time - I will give you a cordial welcome. We could go to the Mammoth Cave - and to the Blue grass region - and see many things in Kentucky which if you have not seen would I think interest you

Yours friend

Joshua F Speed

4. Joshua Fry Speed letter to Joseph Gillespie



Springfield, Ills. Sept 13. 1849

If I have such man, I have no right to interfere - I will however say this much - Joseph Gillespie (brother of the Register) is a most promising and clever man - is, in my estimation, the principal Whig of this Land District, and one of the principal Whigs of the whole state - He resides at Edwardsville,

Yours truly

A Lincoln

5. Letter from Lincoln praising Joseph Gillespie

able man, who is in my estimation, the principal Whig of that Land District." About Lincoln, Gillespie said, "Sometimes I feel that my life has been a mere delusion; that I could have personally known and been on terms of intimacy with one who fills so large a measure of space in the world's estimation appears impossible and unreal."

6. Sentiment from William Herndon

William "Billy" Herndon, Lincoln's law partner for 16 years, wrote that Lincoln "… was a great good strong man. This fact is hid under the fact of martyrdom, but sooner or later—sun like—it will burst out and flame oer our heads." The loquacious Billy would never use a simple word when he could use a longer one. Lincoln warned him, "Billy, don't shoot too high—aim lower and the common people will understand you."

7. Receipt signed by Ninian Edwards

Ninian Edwards was the son of the first governor of Illinois and was married to Elizabeth Todd, an older sister of Mary Todd Lincoln. The Edwards family were members of Springfield "high society" and provided a bridge of acceptability to the socially deficient young Lincoln. The Lincoln marriage ceremony took place in the Edwards' home. Ninian and Lincoln had a somewhat contentious relationship.

8. Signature of Stephen Douglas

Referred to as "The Little Giant," Stephen Douglas was one of the most powerful and gifted orators and politicians of Lincoln's era. Lincoln first met Douglas in 1836, in the Illinois State Legislature. From that time on there was competition between the two men, not only in love (Douglas courted Mary Todd), but also in politics. Lincoln felt inferior to Douglas and was envious of his political stature and the fame he had achieved. Interestingly, Douglas propelled Lincoln into national prominence during the Lincoln-Douglas debates, ultimately leading to Lincoln's presidency.

9. Signed copy of the "real" Gettysburg Address

The "real" Gettysburg Address was delivered by Edward Everett, regarded as the greatest orator of the 19th century. Everett's presentation lasted over two hours, while Lincoln's "few appropriate remarks" lasted less than three minutes. Although the eloquence of Lincoln's Gettysburg Address was not generally acknowledged until the late 1800s, Everett immediately recognized its value and wrote to Lincoln, "I should be glad, if I could flatter myself that I came as near to the central idea of the occasion, in two hours, as you did in two minutes."

10. Sentiment from Dr. Charles Leale

Dr. Charles Leale—a 23-year-old physician who had obtained his medical degree only six weeks previously—was in the Ford Theater audience during Lincoln's assassination and was the first doctor to attend Lincoln after he was shot by Booth. After his initial examination, he proclaimed, "His wound is mortal; it is impossible for him to recover." Leale held Lincoln's hand as he was dying, later recalling that, "Knowledge that frequently just before departure recognition and reason return to those who have been unconscious, caused me for several hours to hold the President's right hand firmly within my grasp, to let him in his blindness know, if possible, that he was in touch with humanity and had a friend." Although Leale was initially criticized for probing Lincoln's head wound, his management of the case has been vindicated by history. He wrote the sentiment above to his daughter, Lillian, on the centennial celebration of Lincoln's birth.

11. Signed Lincoln pardon

On Dec. 8, 1863, Lincoln issued a proclamation as a means of repatriating "those who resume their allegiance" to the Union, even though the Civil War was still in progress. He issued a full pardon, including the one above, to soldiers who took the oath of loyalty and then allowed them to return home. Lincoln's secretary of war, Edwin Stanton, was of the strong opinion that Lincoln was far too lenient with his adversaries. This trait of forgiveness is now seen as one of Lincoln's greatest virtues.

12. Boston Corbett signature

Boston Corbett was a member of the 16th New York Cavalry. On April 26, 1865, against orders, he shot through a crack in a barn wall and mortally wounded John Wilkes Booth because "God told me to do it." He signed the document eight days later, on May 4. Corbett was a religious zealot who performed self-castration with scissors to "cure" his attraction to prostitutes. Initially reprimanded by Secretary of War Stanton, Corbett was later made a national hero.

These items are but a small part of my total collection. When all the items are viewed in context and in relation to one another, they give graphic evidence of Lincoln's evolution and maturation.

It should not be assumed that Lincoln was a passive and humble man. To the contrary, he was a complex, intelligent, ambitious and calculating politician who used humor and self-deprecation to disarm his adversaries. As his law partner William Herndon said, Lincoln's ambition was like "a little engine that knew no rest."

Despite his ambitions and accomplishments, Lincoln questioned his own qualifications to be President. In 1859, he confided to the journalist Henry Villard, "Just think of such a sucker as me as President."

So what made Lincoln great? I believe that along with his superb people skills, he had exceptional inner strength, as well as the courage and self-confidence to do what he felt was right and not necessarily politically expedient or popular. Lincoln stated that his highest aspiration was to be "truly esteemed by my fellow men." He certainly attained that goal. ◇

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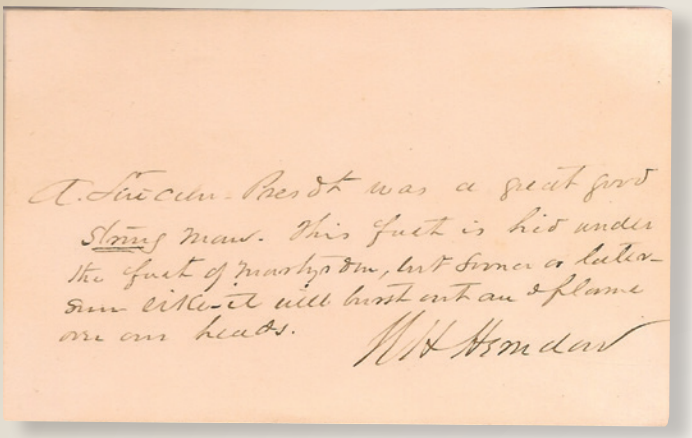
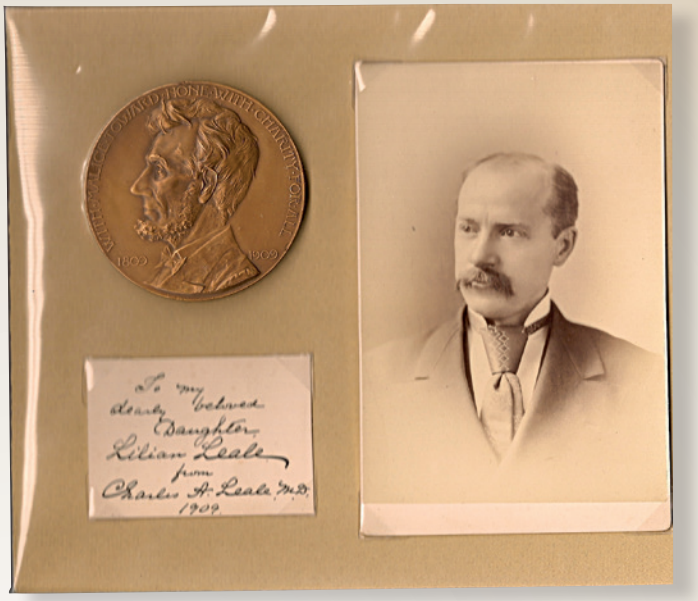
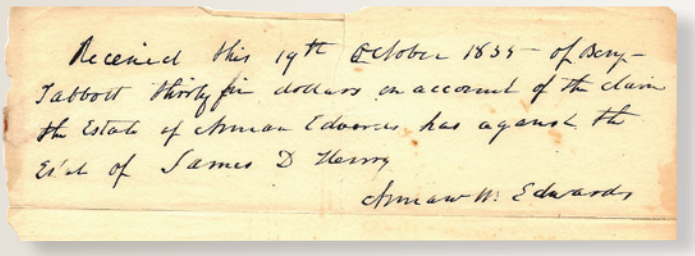

A. Lincoln Pres't was a great &
Strong man. His fault is hid under
the fault of martyrdom, but sooner or later
Sum cities will burst out in flame
over our heads.
W. H. Herndon

6. Sentiment from William Herndon



10. Sentiment from Dr. Charles Leale


Received this 19th October 1835 of Benj.
Talbott Thirty six dollars on account of the claim
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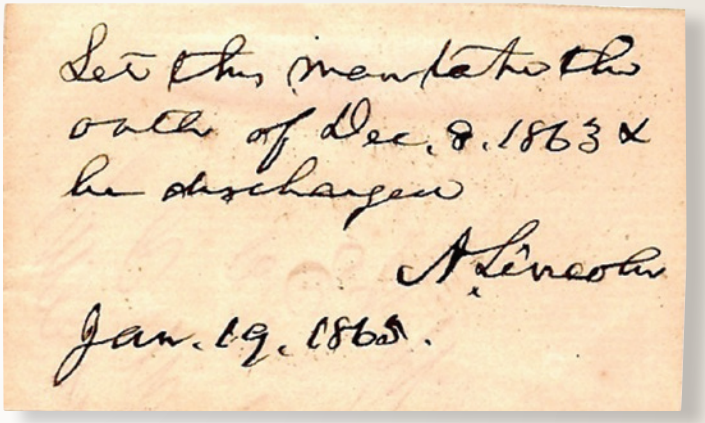
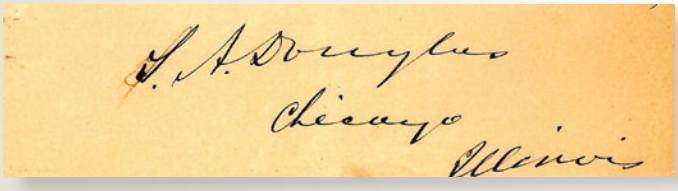
Est of James D Henry
Ninian W. Edwards

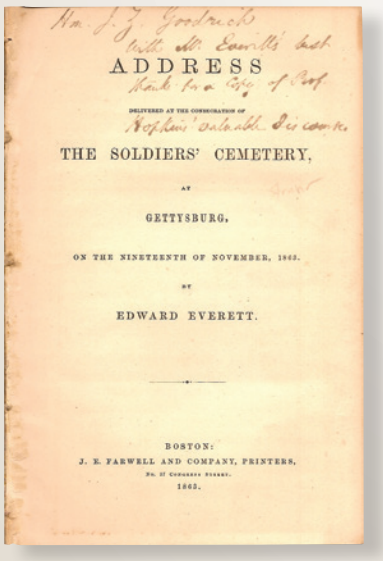
7. Receipt signed by Ninian Edwards



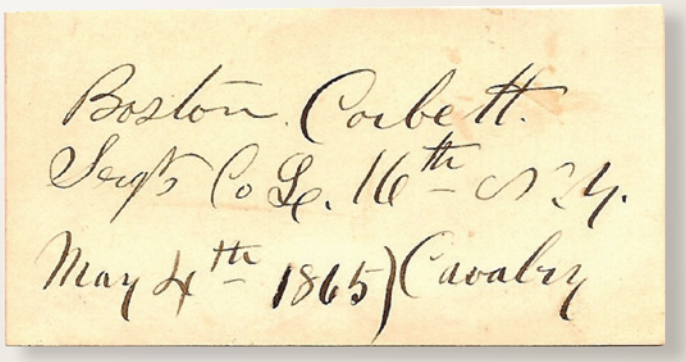
11. Signed Lincoln pardon



8. Signature of Stephen Douglas



9. Signed copy of the "real" Gettysburg Address



12. Boston Corbett signature

More Happiness, Less War

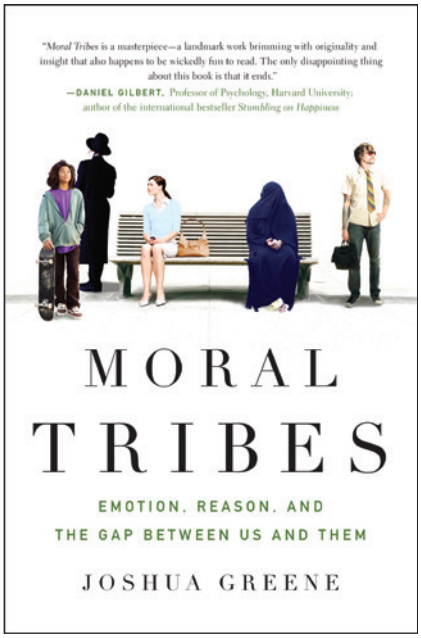
Brien A. Seeley, MD

Moral Tribes: Emotion, Reason and the Gap Between Us and Them, Joshua Greene, 432 pages, Penguin (2013).

Think about your mom and dad. Remember their unconditional loving-kindness, their memorable storytelling and their exemplariness. Tenderly whisper your thanks to them for your precious morality, your compass for navigating life. Your morality runs deep, etched into your heart. It is the cornerstone of who you are and is used in decision-making every day. It evolved from the sum of your life experiences as a perfect fit for your culture, your tribe. Though it is not infallible, it provides your first, fastest and usually best assessment of what to do. Even though it was formed from sayings as simple as "because Mommy said so," your morality is your surest tool for achieving happiness.

The above paragraph states the basic premise on which Harvard brain scientist and sociobiologist Joshua Greene builds a more expansive view of morality in his new book, *Moral Tribes.* Greene views morality as our human capacity for solving five basic types of social conflict: "me vs. you," "me vs. us," "us vs. it," "us vs. us" and "us vs. them." If we look at some memorable examples of these conflicts, we can better appreciate Greene's prescription for happiness.

Me vs. you. In a 1960s television skit, Red Skelton plays a hungry hobo on a park bench (Freddie the Freeloader) who sees a cake fall out of a passerby's grocery bag. As Freddie gets ready to cut the cake, the other hobo on the bench insists that Freddie share the


"Moral Tribes is a masterpiece—a landmark work brimming with originality and insight that also happens to be wickedly fun to read. The only disappointing thing about this book is that it ends."
—DANIEL GILBERT, Professor of Psychology, Harvard University; author of the international bestseller Stumbling on Happiness
MORAL
TRIBES
EMOTION, REASON, AND
THE GAP BETWEEN US AND THEM
JOSHUA GREENE

cake with him, saying, "If we are to split the cake fairly, you should let me cut the cake." Freddie shrugs and hands him the cake, which he cuts into a big piece and a little piece, keeping the big piece for himself. Freddie objects, saying, "That's not fair. Why, if I had cut that cake I would have given you the bigger piece." The sly hobo indignantly retorts, "Well, what are you whining for? That's exactly what I did." The issue here is clearly individual selfishness.

Me vs. us. After the famous mutiny on the Bounty in 1789, the mutineers set Captain Bligh and 18 loyal crew adrift in the Pacific Ocean in a 23-foot boat with meager provisions. Bligh and his crew soon faced a classic potential "tragedy of the commons" in which selfishness by some can lead to disastrous results for all. Miraculously, aside from one crewman killed by natives of Tofua, all of the Bligh loyalists cooperated well enough to survive an arduous 47-day voyage to the island of Timor in the Dutch East Indies.

Us vs. it. In the movie *All Is Lost,* Robert Redford plays a single-handing sailor who awakes to find that the hull of his sleek ocean-going sailboat has been fatally gashed by a large metal shipping container floating in the middle of the Indian Ocean. As the bobbing sailboat's cabin floods and ruins his high-tech equipment and water supply, the solitary Redford realizes his desperate plight against a relentless, amoral opponent, the sea. A violent storm sinks the sailboat, leaving him in a flimsy raft. His only real hope is to raise the awareness of strangers to his plight, but crew on the containerized cargo ships in the area pass unaware of him. This allegory about the peril of disregard for the environment presents a cautionary tale about us vs. it.

Us vs. us. George Washington's farewell address is devoted to warning about the divisive perils of factions and party politics. It is read ceremonially each year to Congress and bears repeating here:

> [Parties] serve to organize faction, to give it an artificial and extraordinary force; to put, in the place of the delegated will of the nation, the will of a party, often a small but artful and enterprising minority of the community; … [parties] are likely, in the course of time and things, to become potent engines, by which cunning, ambitious, and unprincipled men will be enabled to subvert the power of the people, and to usurp for themselves the reins of government; destroying afterwards the very engines, which have lifted them to unjust dominion.

Amazingly, Washington's prescient words foretell such momentous events as the Civil War and Hitler's rise to power. Even today, our staunchly partisan Congress fiddles myopically

Dr. Seeley, a Santa Rosa ophthalmologist, serves on the SCMA Editorial Board.

while major problems continue to burn. Greene points out that, unlike the world's major religions, the diverse tribes that make up the American public lack a single unifying moral code, an "us." Instead, our polarizing two-party system, recurring re-election campaigns and the Citizens United decision provide a perfect nest for amoral corporate lobbyists who fulfill the role of the "enterprising minority" described by Washington.

Us vs. them. These are the titans of conflicts, occurring usually between nations and religions. Examples abound, and include all wars, genocide and terrorist group activity. Greene gives these conflicts the most attention, reminding us that political and religious strife tragically killed 230 million people in the last century.

Of the five types of conflicts, Greene admits that the lower-stakes "me" types are usually solved by our innate moral compass, our gut feelings, our heart. But the larger "us" type, he says, urgently demand a different moral compass, one with a mindset toward utilitarian solutions—solutions that impartially seek the greatest happiness for all. This dual-process approach to morality is the main message of *Moral Tribes*. Greene presents extensive results from psychological thought experiments and brain imaging to support the dual-process approach as the best one available.

Greene wants us all to become moral thinkers. Like Damasio, Kahneman and Claxton before him, Greene recognizes that we need both fast and slow thinking to ideally sift our choices from our enormous decision trees. The fast thinking is our knee-jerk parental morality. The slow, deliberate thinking is how we cooperate on more complex issues. It is the tool one uses in chess to plan moves ahead, to foresee outcomes and consequences.

Green gives cooperation the highest respect: "From simple cells to super-social animals like us, the story of life on Earth is the story of cooperation. Cooperation is why we're here, and yet, at the same time, maintaining cooperation is our greatest challenge". Morality, writes Greene, evolved because "cooperation by individuals conferred a survival advantage to their group" or tribe. The problem came when such tribes grew large and began to interact and selfishly compete. (Oddly, Greene makes no mention of Harvard's E.O. Wilson, the pioneering authority on the evolution of social cooperation.)

Selfishness—that abomination to Aristotle, yet the engine of progress to Adam Smith and Ayn Rand—underlies each of the five types of social conflict. It is how each of us inherently perceives the world. The Golden Rule, for most of us the touchstone of morality, works because selfishness can be seen in others better than in oneself. If we had a selfishness thermometer whose spectrum ran from greedy to supremely generous, most of us could place people we know somewhere along that spectrum. Greene presents research to show that one's place on that spectrum is closely related to which "tribe" we are from.

Greene admits that not all conflicts are based on selfish concerns. There can be third parties or inanimate objects at stake. There can also be Catch-22s, double-bind situations where our innate moral compass opposes a rational, utilitarian plan for maximizing happiness. There can even be cases where new evidence conflicts with long-held dogma or local beliefs, so that no solution may seem satisfactory.

Greene enumerates 16 human factors that guide our moral impulses, ranging from empathy and love to embarrassment and righteous indignation. These factors collectively determine our sense of decency and our innate reactions to cheaters in our tribe. The human tendency to gossip and rumors, says Greene, extends these reactions widely across a tribe or community, and ensures effective accountability for everyone in the tribe.

Our sense of decency makes us care that people have rights to things that were unjustly taken from them. We

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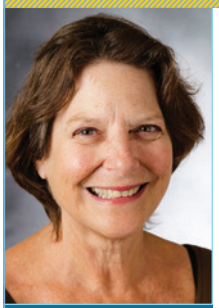

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do what we can to atone for past sins; but Greene would have us shorten the scorecard for past wrongs by employing another moral principle: forgiveness. Our tendencies for forgiveness, he writes, "are adaptive strategies in a world where mistakes happen." He suggests that all legacy rights must be tempered with an overriding rule to seek the greatest future happiness.

Greene devotes a good deal of space to discussing the goodness of utilitarianism and defining its goal of happiness as being far more generic than smiles and plenty. Greene wants utilitarianism to be embraced as everyone's common moral currency. He makes this seem reasonable and acceptable at first blush. However, philosophers like John Rawls point out that utilitarianism can violate the rights of the individual, rights that many philosophers and religions consider sacrosanct. Greene dismisses the sanctity of individual rights as an annoying impediment to negotiating best-case solutions to titanic problems. When an opponent objects that a solution violates some right(s), Greene says, that opponent is seeking to effectively end the argument by inserting an ingredient that cannot be decided by evidence. To many, this will be a key weakness in Greene's approach. Again, the innate moral compass runs deep.

Greene communicates well, with a just-right mix of formality and jargon. He personalizes in places and confronts current events with his own frank views. This approach makes the book flow with understandable meaning.

He concludes with six rules for solving moral problems. The rules can be paraphrased as follows:

- For "me vs. us" disputes, use your fast, innate moral compass—what your parents taught you as right and wrong.
- Do not use "rights" in arguments or disputes. Though they feel like a trump card, rights are abstract and not amenable to reason by evidence.
- Focus on facts and evidence regarding the actual consequences of proposed policies. Include both primary and secondary consequences.
- Beware of insidious and obvious "biased fairness" in all positions taken.
- In "us vs. them" disputes, use the common moral currency of maximizing happiness by employing the common factual currency of science.
- Give. The affluent need to make sacrifices to help the less fortunate.

Greene's comprehensive treatise to develop a scientifically supported, universally accepted set of rules for negotiating maximum happiness is heroic, if naive. Such rules, like *Robert's Rules of Order,* would be a great help if widely ratified by diplomats, elected officials, school boards and church councils. It remains to be seen if these rules can win the kind of commitment necessary for resolving deep conflicts about abortion, evolution, climate change or the distribution of wealth. One hopes that Greene's next book will map a way to win such commitment. ◇

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Gayle Stephens, 1928–2014

Rick Flinders, MD

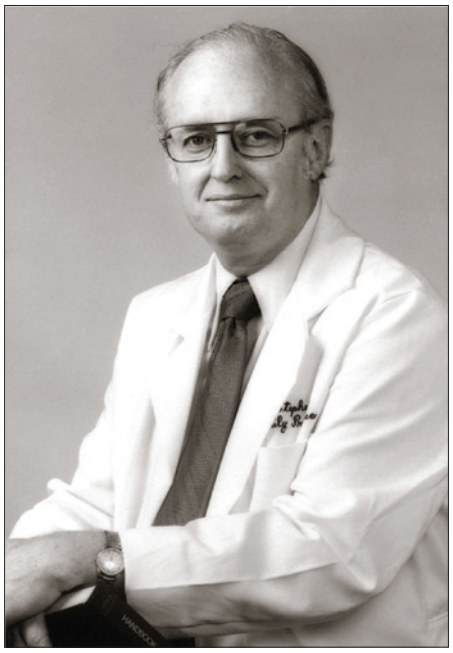
A chief event of life is the day in which we have encountered a mind that startled us.
—Ralph Waldo Emerson

Family medicine pioneer G. Gayle Stephens, MD, died recently at his home in Birmingham, Alabama, after a short illness. He was 85 years old. Widely regarded as a pioneering leader in family medicine, Dr. Stephens founded one of the nation's first residency programs in the specialty at the Wesley Medical Center in Wichita, Kansas, in 1969. A prolific writer and recognized scholar, Dr. Stephens' 1982 book The Intellectual Basis of Family Practice *has been hailed by many as the most influential work on family medicine ever written. He retired in 2012, after 57 years of active practice.*

George Gayle Stephens was more than a great physician, he was a great man: a once-in-a-lifetime generational leader who shaped a specialty and who, in my mind, had more influence on the social reform of medicine than any other individual of our time. He was a lifelong scholar, writer, orator, philosopher, theologian and teacher. He was also my friend. I got to meet him twice.

The first time was in 1987, when he spent two days as a visiting professor in the Santa Rosa Family Medicine Residency. That visit shaped me as a family physician and teacher.

The second time was in July of last year, when he agreed to be interviewed as part of a fellowship I'd been granted by the Center for the History of Family Medicine. That visit has shaped me in a different way, and it has left an indelible impression on my understanding of medicine and of life.



We met at his home in Dillon, Colorado, at 9,000 feet in the Rocky Mountains, seven miles from Keystone, the site of family medicine's three "Constitutional Conventions." We arranged to meet for two hours, between breakfast and his obligatory afternoon nap. We ended up talking for six hours, concluding at Pug Ryan's Pub, over French onion soup and a locally brewed porter. He was sharp, lucid, buoyant and impassioned. I got the impression he believed his remaining time was short. He told me he still missed practice and still had hope for the future of family medicine. He also described where he felt the political energy of our specialty lies.

He talked of growing up in his tiny home town on the shore of the Mississippi River "deep in Mark Twain country," where he played, fished and milked cows, and where there was no high school. He talked of his father, why he went into medicine, his early education, and his life-changing encounters with Michael Balint and a professor of psychiatry from Northwestern University.

He talked about the Medicare debate in 1964, the Willard Report in 1969 and the Affordable Care Act in 2010. He challenged me to ask him interesting questions: What 10 books would you put on the reading list of all pre-med students? Where did you come up with the parable of The Big Red Bull? Have you ever considered convening a "Keystone Four"? If you were giving this year's annual Gayle Stephens Lecture (as I am), what would you say?

When we parted, he made it clear that the interview wasn't over, that it had only just gotten started. For the past year, I became the undeserving but fortunate beneficiary of his sense of urgency through an e-mail correspondence that included many reflections from the last year of his life.

Dr. Stephens dwelled in the world of medicine, but he was equally accomplished and comfortable in the worlds of psychology, philosophy, religion and literature. In what I believe to be his last public address—a 30-minute presentation on the occasion of last year's Gayle Stephens Award to a senior medical student at the University of Alabama Birmingham—he quoted from Goethe, Harvey Cushing, W.R. Houston, John Berger and Peter Matthiessen, to name a few. Those of us who seek to continue the work of family medicine and to establish a more distributive justice in healthcare shall be quoting Gayle Stephens for generations to come. ◇

Dr. Flinders, a family physician and hospitalist who teaches in the Santa Rosa Family Medicine Residency, serves on the SCMA Editorial Board.

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Gardening for Health and Happiness

Maria Pappas

While gardening can be challenging work, the results of that labor can become a pleasing sensory and aesthetic experience. The chance to share these beautiful outcomes with the public is what prompts gardeners to participate in the Sonoma County Medical Association Alliance (SCMAA) Foundation Garden Tour. One such gardener is Dr. Charles Meltzer, an otolaryngologist at Kaiser Permanente Santa Rosa who is making his debut as a garden owner in the 23rd annual Garden Tour, set for May 16 and 17. He may well have found gardening and sharing his garden to be the keys to health and happiness.

Without reservation, the hands-on Dr. Meltzer says his garden is a peaceful place where he is able to absorb the quietness around him, interrupted only by the delightful sound of birdsong. "I enjoy the beauty of the constantly changing seasonal show," he comments. Through a process of trial and error, he ensures that each plant is placed correctly by moving the plant up to three times until just the right space is found. The final placement satisfies both the plant and the gardener.

With two acres to keep under control, Dr. Meltzer finds the physical aspects of gardening help maintain his strength, endurance and flexibility. His weekend gardening tasks—which include squatting to pull weeds, hauling wheelbarrows full of compost and even stretching while pruning—supplement his usual weekday workouts. He also maintains beehives whose award-winning honey has kept him fairly allergy free. "While the bees do the work, we have to plan and plant the garden to provide them with the pollen that they turn into nectar," explains Dr. Meltzer. He has also planted a kitchen garden from which he harvests fruits and vegetables year-round. Canning, freezing and preserving these foods allows him to enjoy a bit of summer in the middle of winter.

When asked why he decided to open his garden to tour-goers, Dr. Meltzer responds, "My garden gives me pleasure, and while I am a total amateur, I was honored to be asked and happy to share it with other amateur gardeners. They can learn from my mistakes, and it is nice to be able to contribute to the community we live in."

That willingness to contribute is what makes the garden owners in the tour so special. By sharing his garden with others, Dr. Meltzer is able to give Garden Tour guests a lovely experience while at the same time raising funds for the SCMAA Foundation. "Giving back to the community is the right thing to do," says Dr. Meltzer. "We live in such a big world that we have little impact on, but our community is where we can make some difference. Philanthropy is only one part of good citizenship, and I am very happy to be participating by sharing my garden, which is my sanctuary and very special to me."

With the funds raised by the Garden Tour, the SCMAA Foundation will continue to provide for underserved children and adults through its current, thriving programs: Foster Children's Give-a-gift, Health Careers Scholarship, Safe Schools and Health Promotions (JourneySafe Program, Teddy Bears Project). These programs make it possible to donate holiday gifts to more than 250 children in the foster care system; support former foster youth as they move on to college by providing them with laptop computers; offer scholarships that help Sonoma County students become healthcare professionals; help teachers purchase and use anti-violence and anti-bullying curriculum; host distracted-driving programs in our local high schools; and provide teddy bears to children who undergo medical procedures. This year, the SCMAA Foundation is extending its giving to the Healthcare Foundation Northern Sonoma County for their Healthy Farm Worker Families fund. Lastly, proceeds will also be directed to the Children's Museum of Sonoma County for developing the "Head-2-Toe" health and science lab.

The SCMAA Foundation is eternally grateful to the garden owners who take on the tremendous task of preparing, maintaining and sprucing up in the hope that Garden Tour guests will experience the peacefulness and beauty that each of these gardens brings. The Garden Tour, which is self-guided, will take place from 10 a.m. to 4 p.m. on Friday, May 16, and Saturday, May 17. Tickets cost $40 (or $45 after April 30) and are available for purchase at www.scmaa.org. ◇

Ms. Pappas is vice president for marketing & communications at the SCMA Alliance & Foundation.

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The Next Level of Care

Stephen Steady, MD

The payment restrictions that the government is placing on acute hospitals for complications and 30-day readmission following hospitalization are causing a scramble to keep patients out of the hospital. For hospitals to be in the black with Medicare reimbursements, it is no longer profitable to simply fill the beds. Instead, they need to offload patients and downsize staffing. As a result, a new paradigm or level of care is needed at skilled nursing facilities (SNFs).

If hospitalists have fewer patients in the acute-care setting, then a team of hospitalists needs to care for patients at the next level of care, the higher acuity SNFs. At this time, the lone medical director of the SNF cannot accomplish this task; but with a dedicated staff of hospitalists, a higher acuity of patients can be adequately cared for at reduced cost. If retirement planning can be added to the mix for these seniors, they can easily be cared for in a community with senior housing, assisted living and a higher acuity SNF.

The senior population at age 65-plus is expected to grow to 21% by 2040, and the 85-plus population is expected to grow to 14.1 million. Both the for-profit and nonprofit companies in this market space focus on compassionate care vs. efficiency, but their philosophical difference lies in their marketing message: How do you attract younger residents?

Attracting younger residents has to be done by giving them everything they may need, including local healthcare. The package needs to include dining experience, wellness centers, physician visits, physical therapy, and labs. This package could mean control of the healthcare dollars spent through a capitated model to assist these seniors through the rest of their lives. What matters most is the information technology that integrates the billing, operations management, new patient monitoring devices, customer relationship management and much more.

At each level of care, providing information data management will be the key to success. Budgets for upgrading or replacing systems remain tight, but with these new systems, both large and small companies will operate more efficiently and care for patients across the continuum with fewer dollars spent and with faster reimbursement, if not already capitated.

Just as staffing is a problem in acute-care hospitals, it will also be a problem as these senior communities develop. Retaining workers will be difficult because these are typically low-pay, high-stress jobs, with higher possibilities of injuries on the job, along with night and weekend work. A solution may have to come from the federal level for workers and employers to invest in training through a series of tax breaks, grants or creative community outreach programs.

For owners and operators looking to participate in this new level of care, the challenge is to change the public perception of the "old brand" with the new brand. Repositioning this type of community will need to incorporate the needs of the residents, financial concerns and healthcare. Astute operations can succeed in turning this new level of care into a vertical market space that can identify, examine and manage risk for the residents. ◇

Dr. Steady, a Petaluma gastroenterologist, is president of SCMA.

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RSVP for the SCMA
wine&cheese reception
on **June 10** with CMA President **Dr. Richard Thorp**.
See page 6 for more details. To RSVP, contact
Rachel Pandolfi at **707-525-4375** or **rachel@scma.org**.

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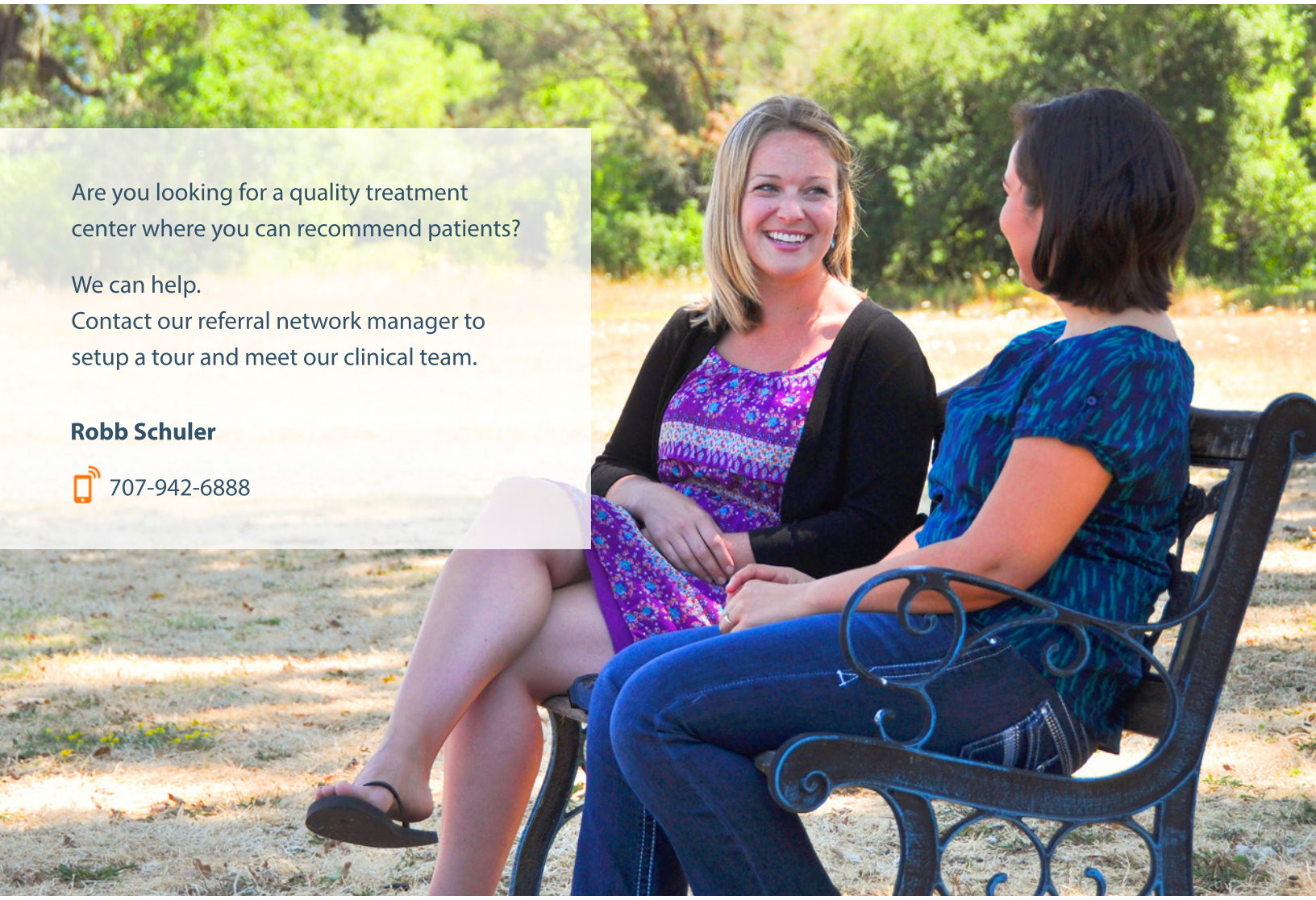

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